

FIG. 1

2/49

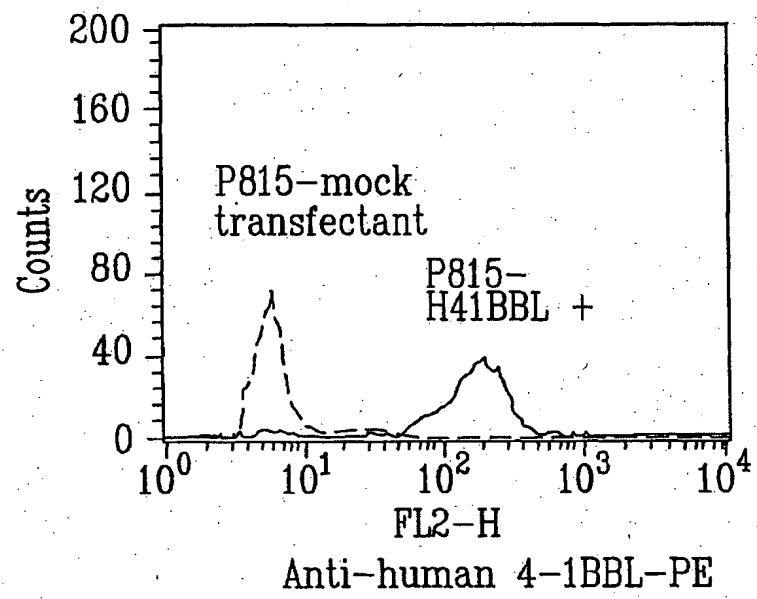


FIG. 2

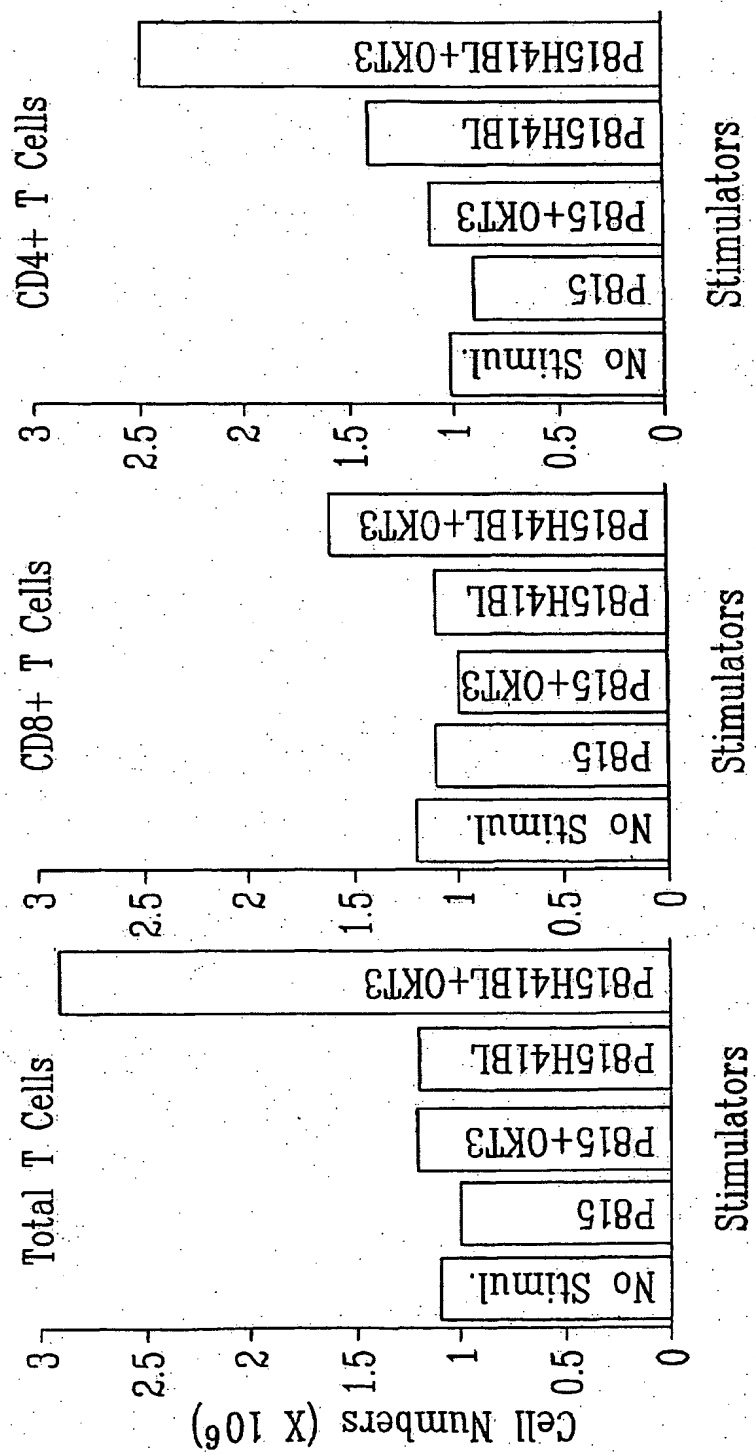


FIG. 3A

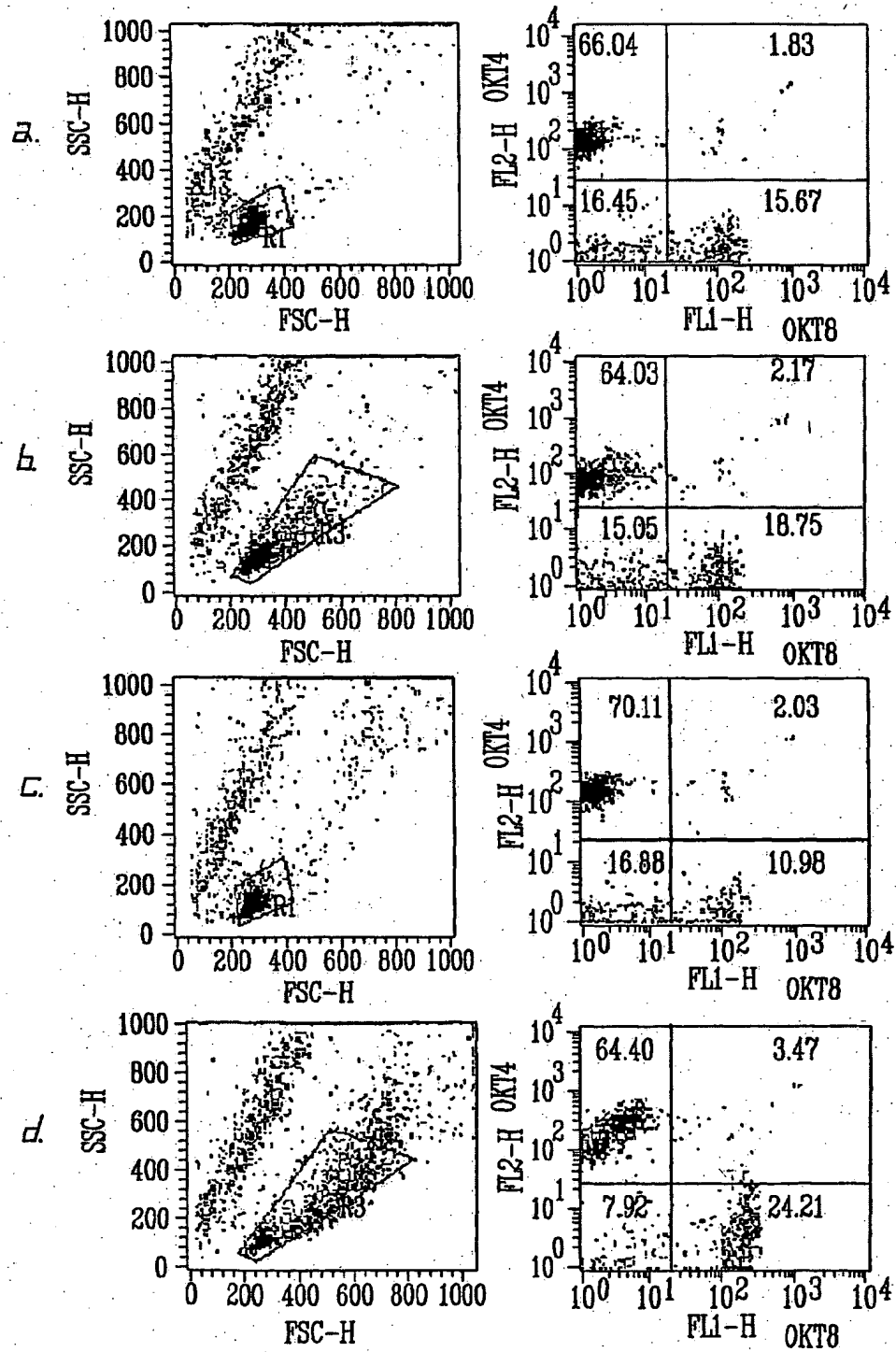


FIG. 3B

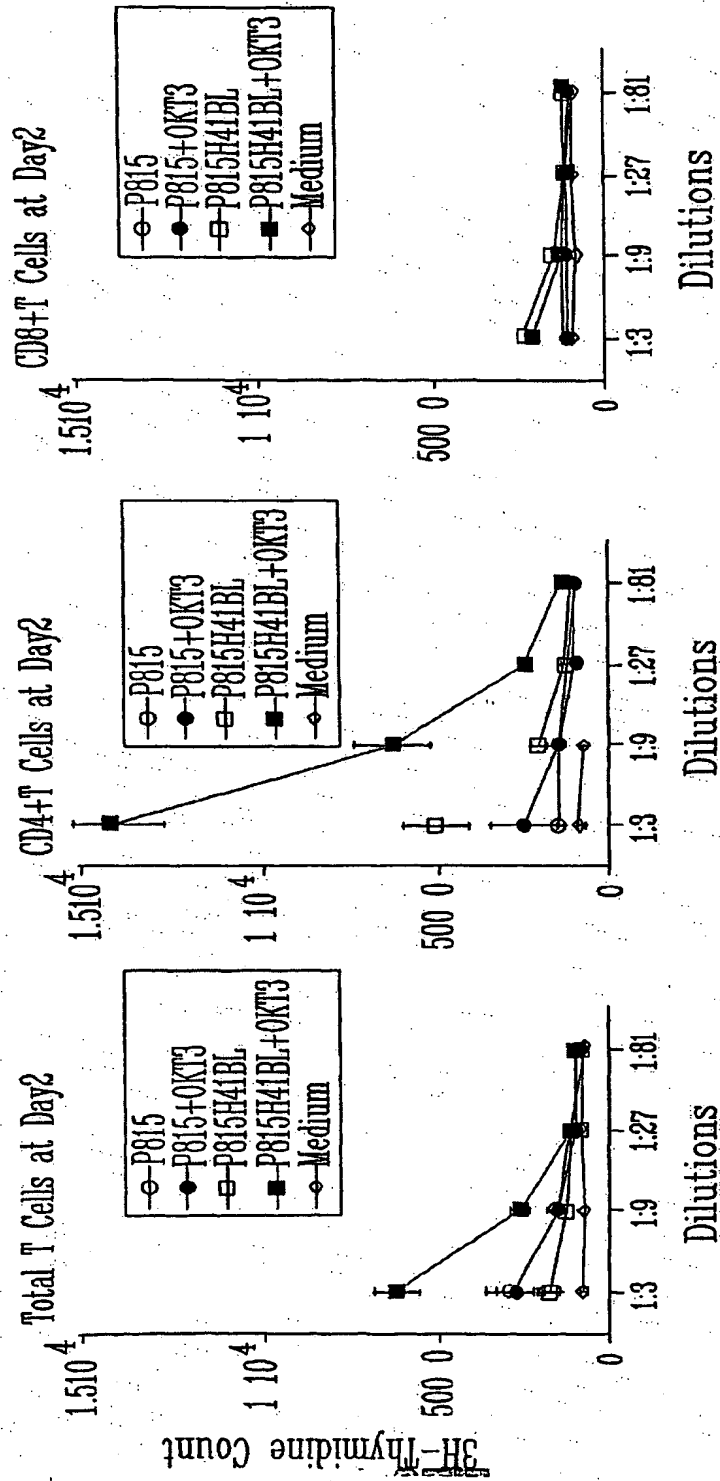


FIG. 4

+

6/49

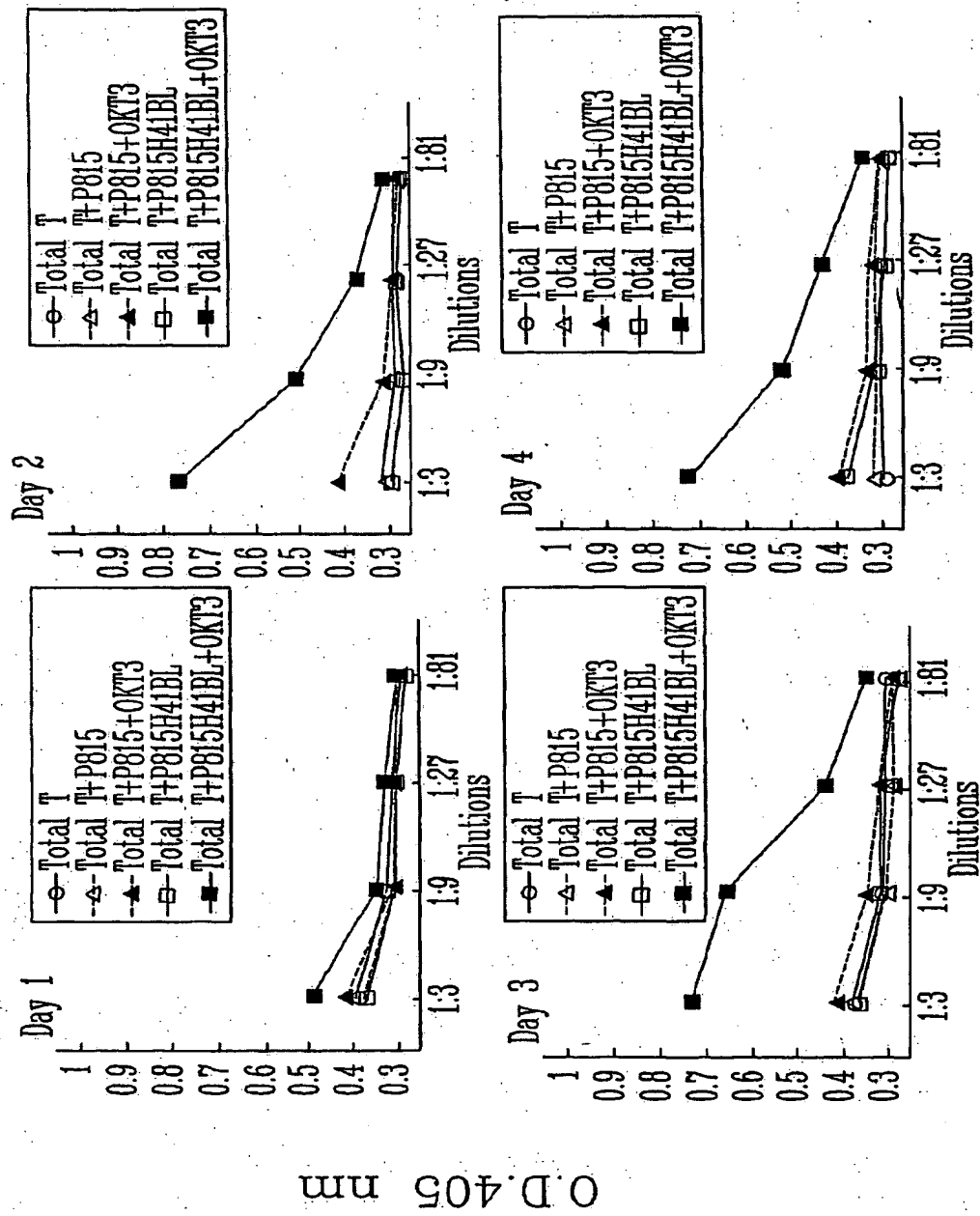


FIG. 5

+

8/49

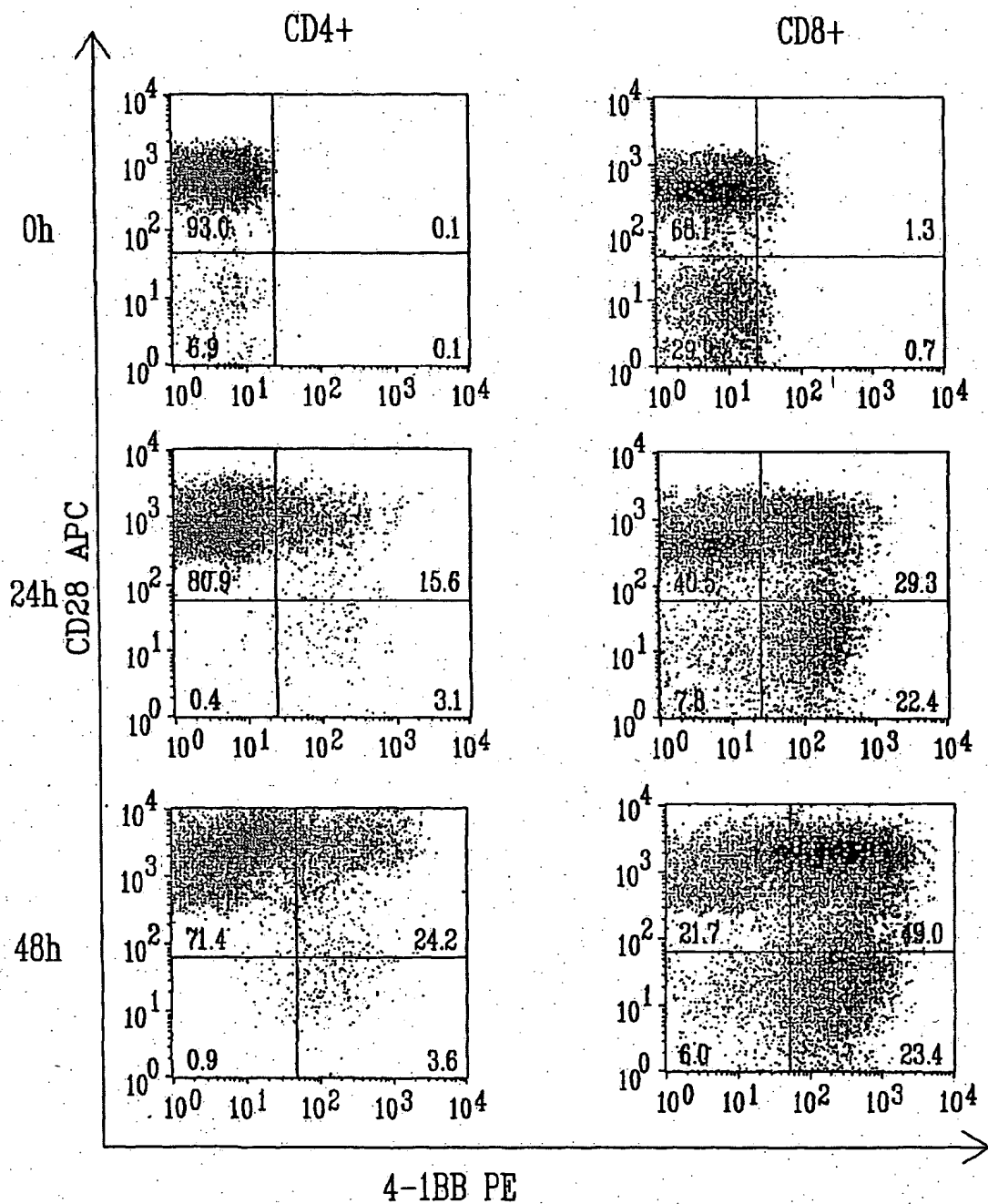
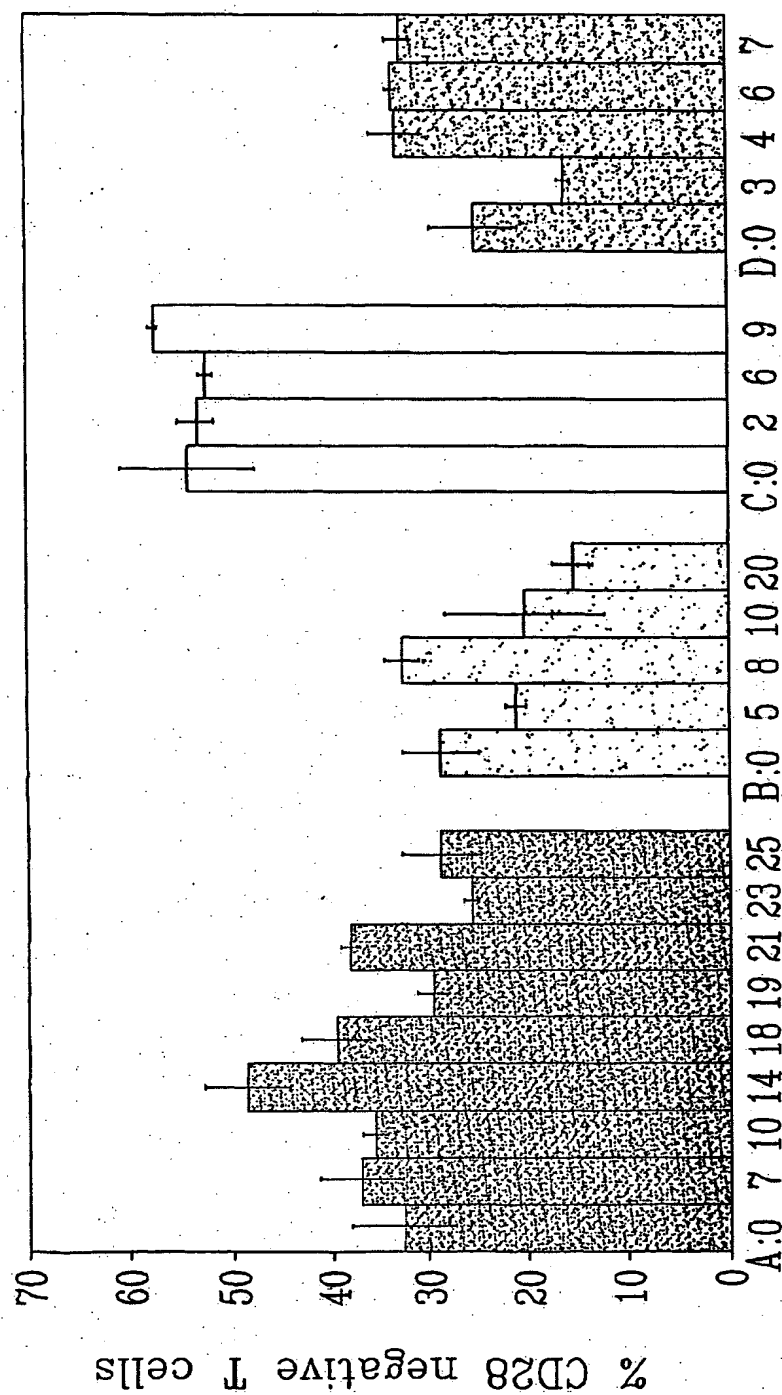


FIG. 7A

+

9/49



Donor Code:Time in Months

FIG. 7B

+

+

10/49

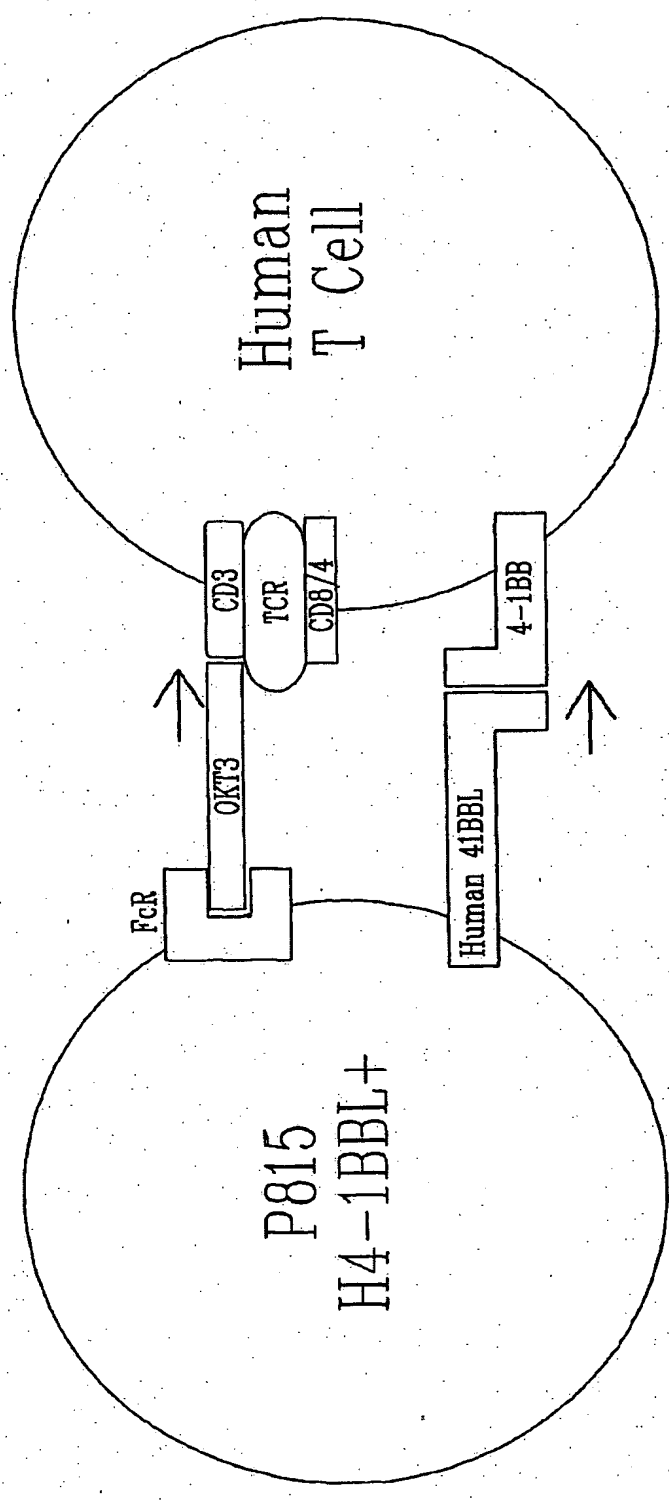


FIG. 8A

+

11/49

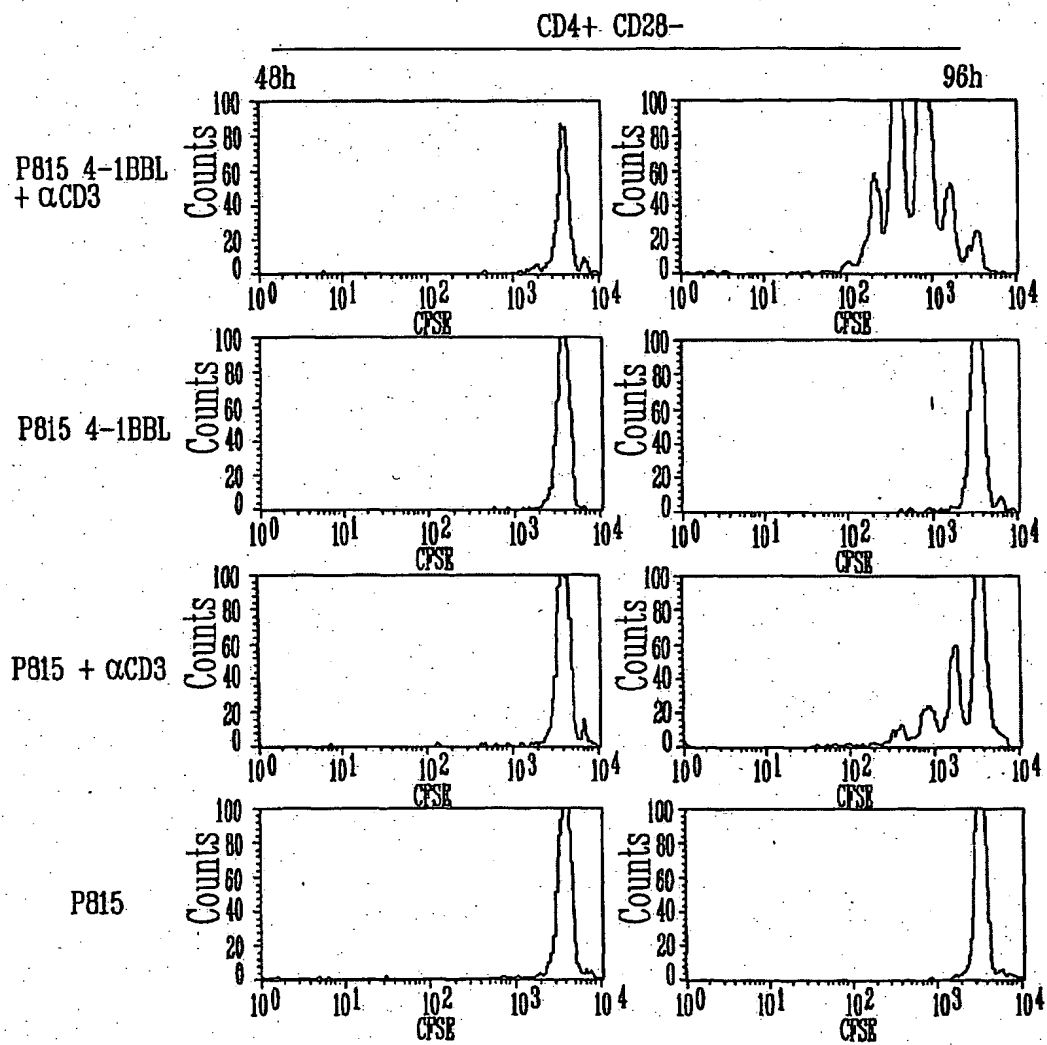


FIG. 8B

12/49

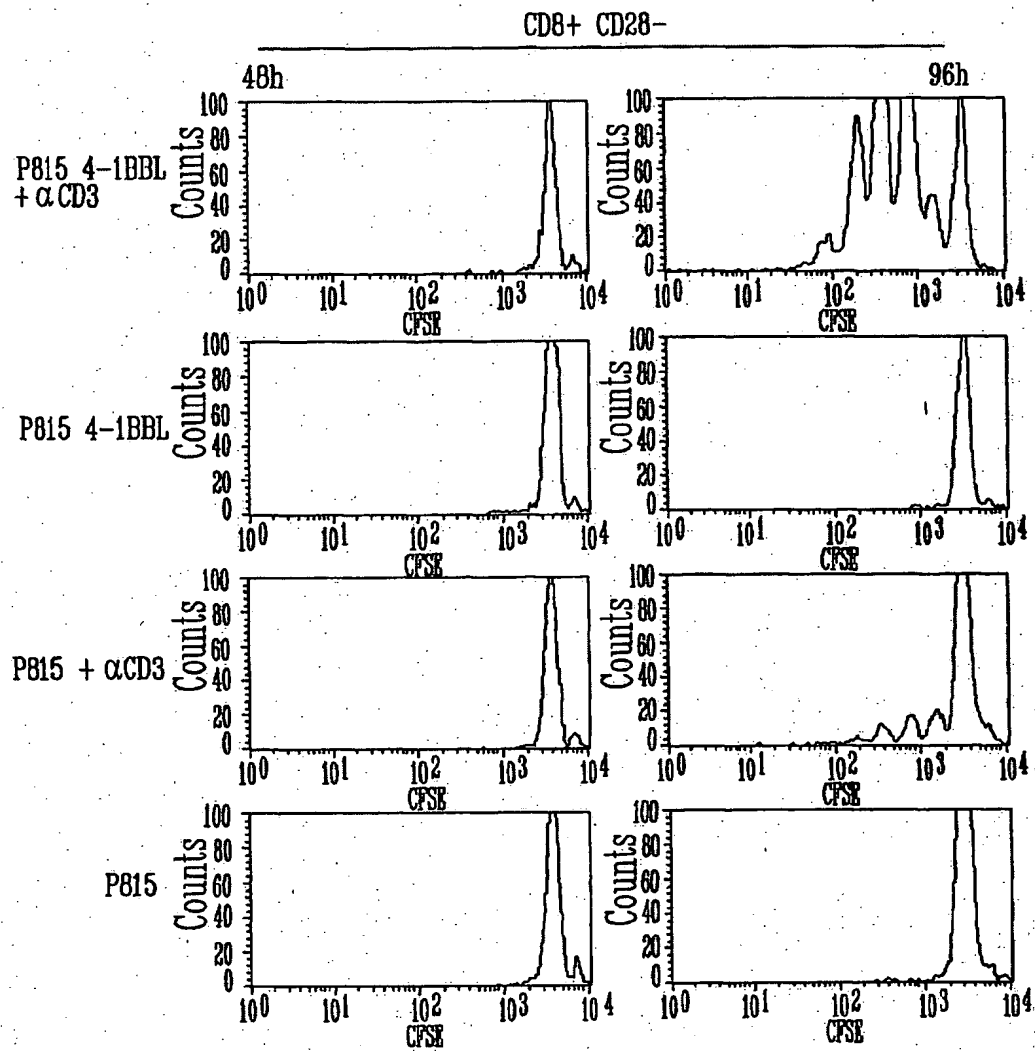


FIG. 8C

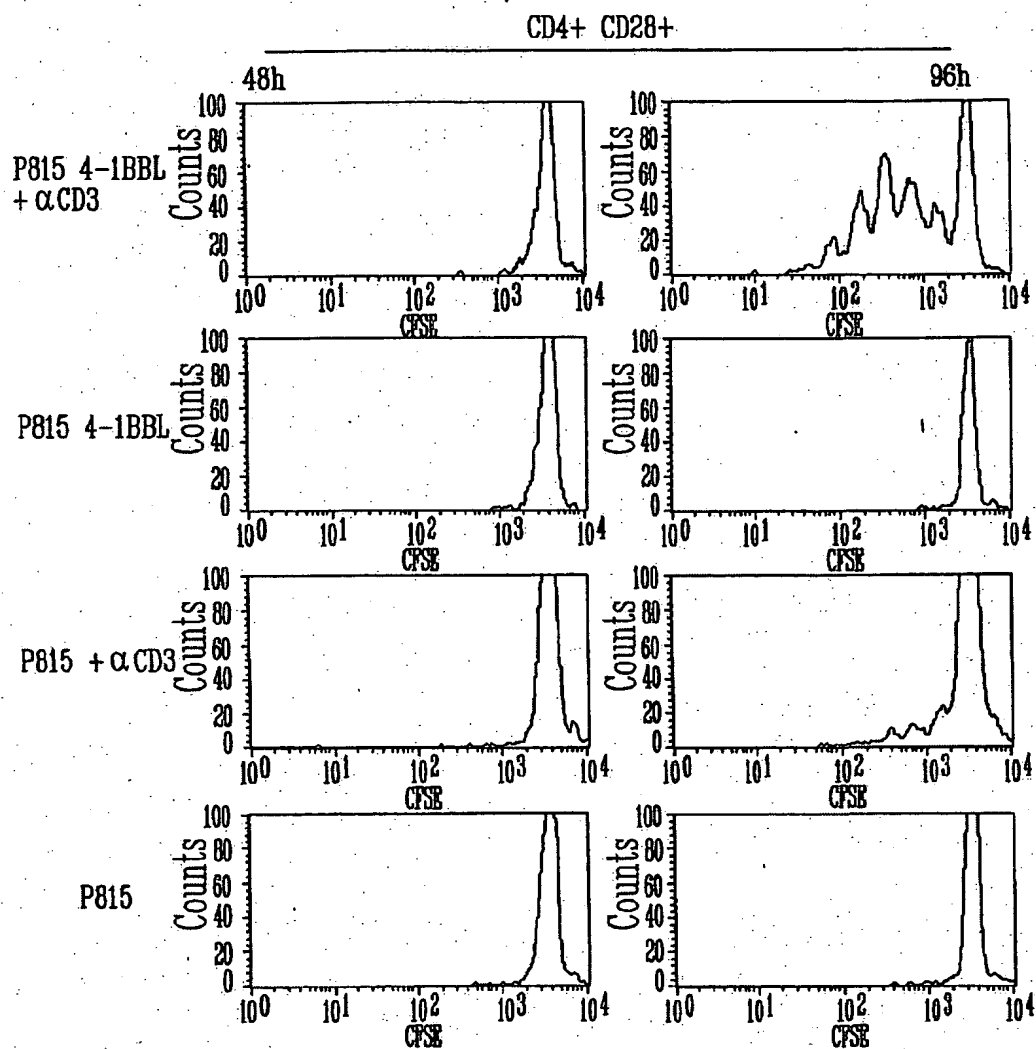


FIG. 8D

14/49

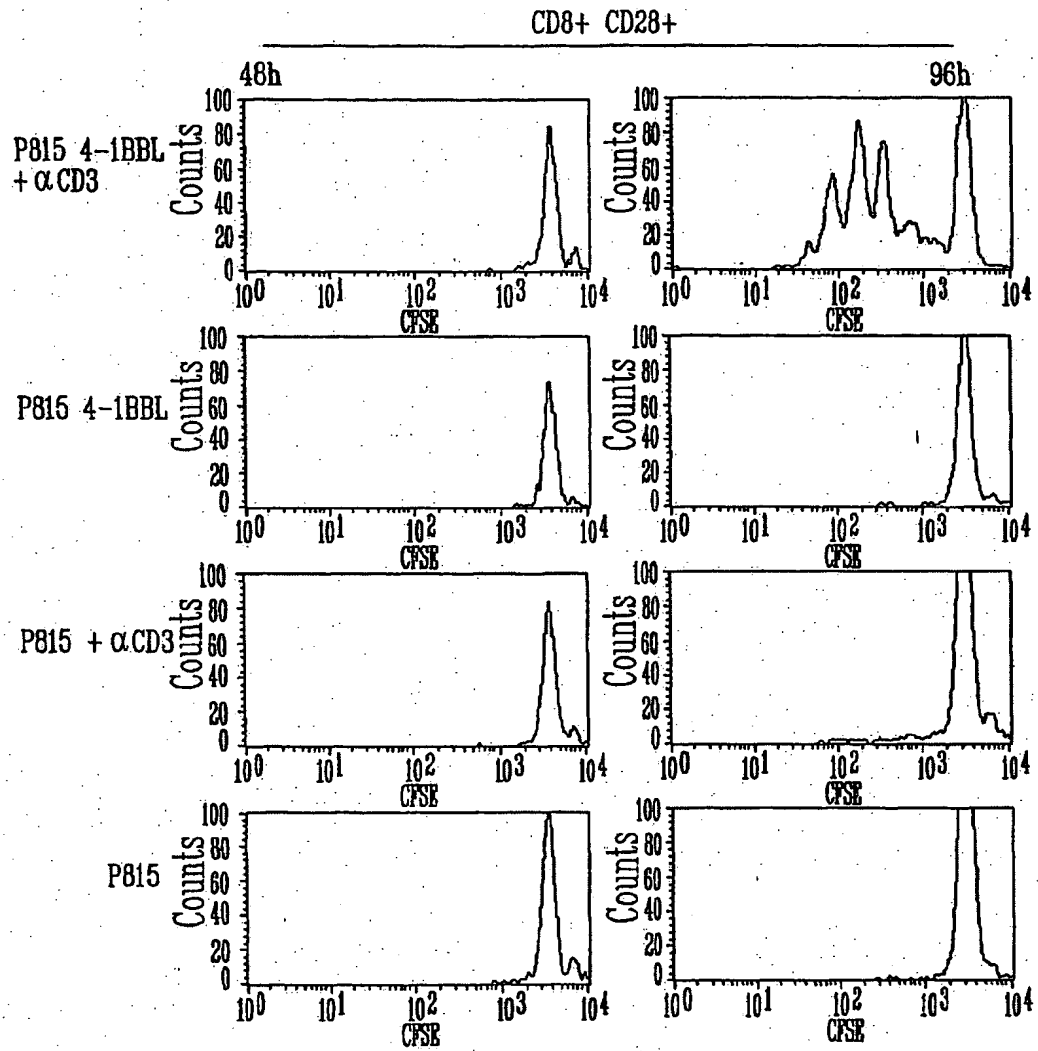


FIG. 8E

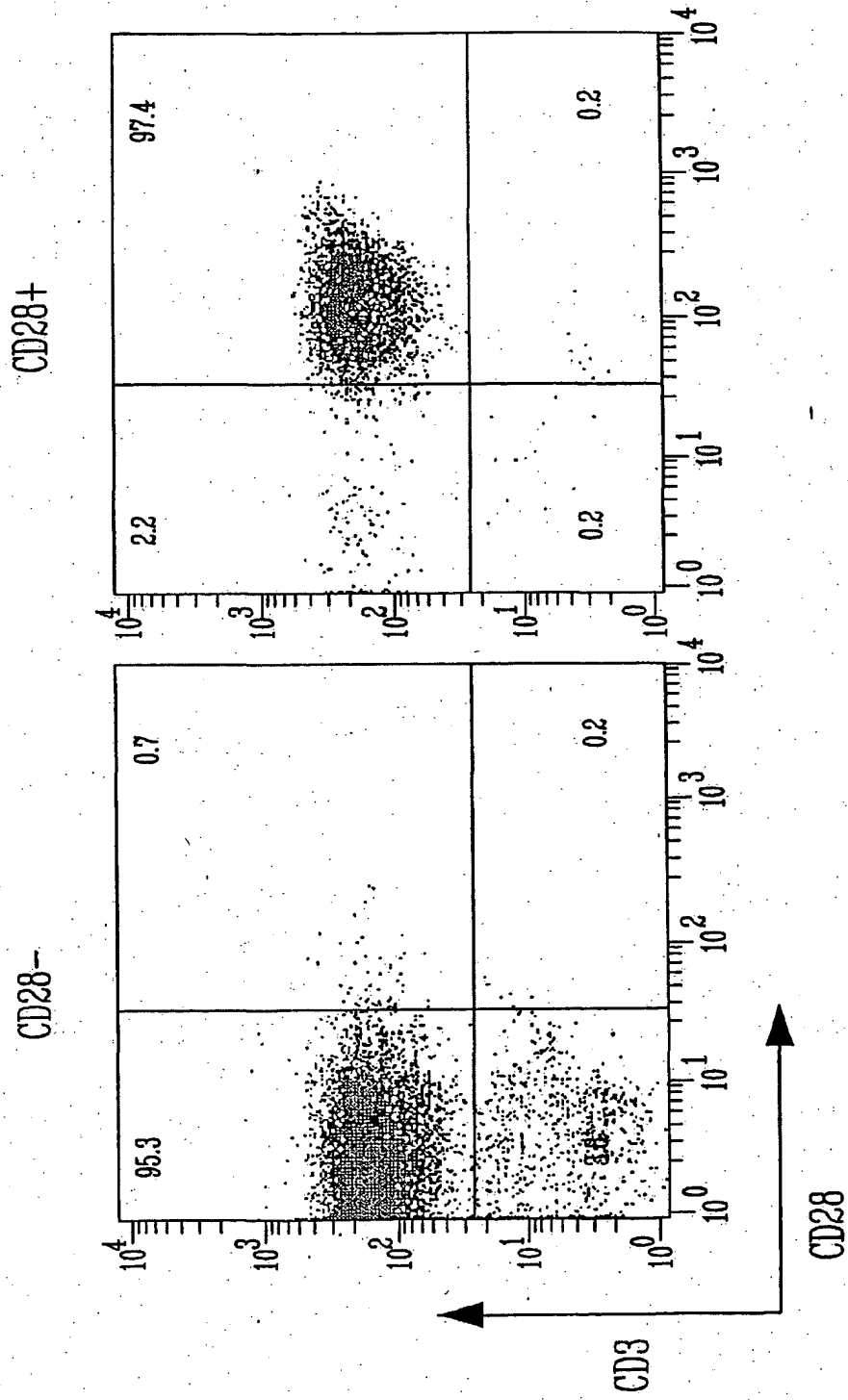


FIG. 8F

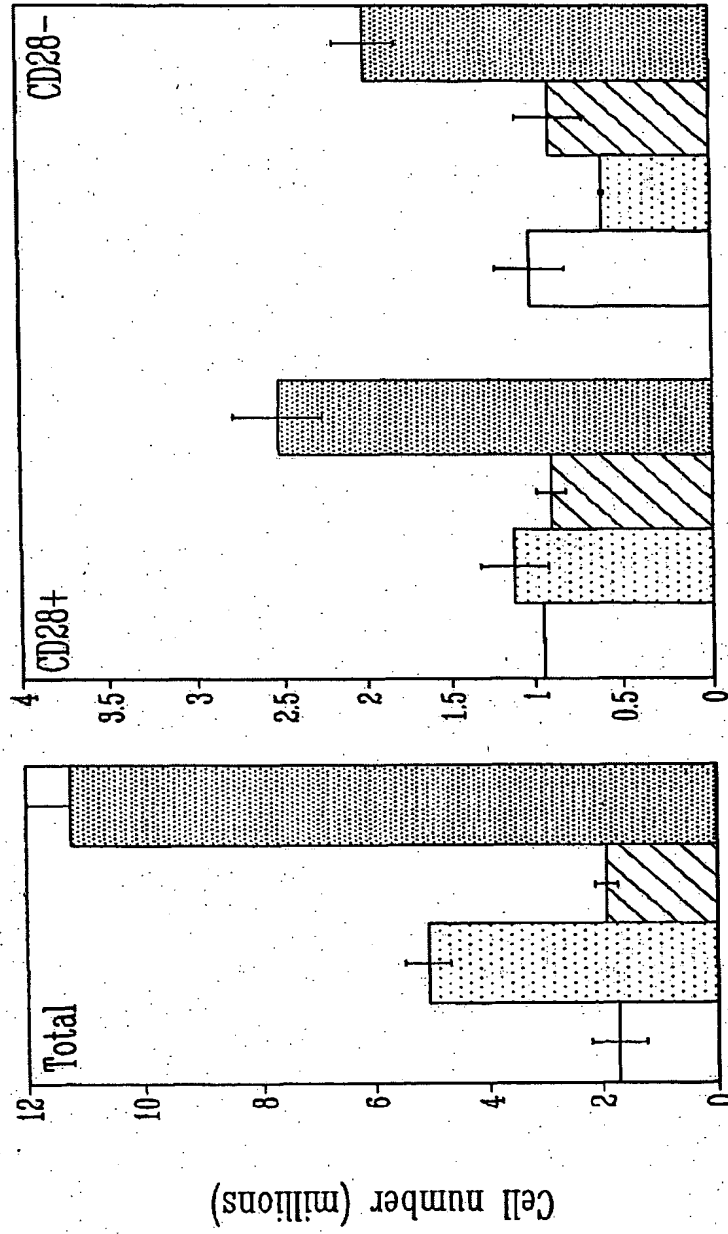


FIG. 8G

+

17/49

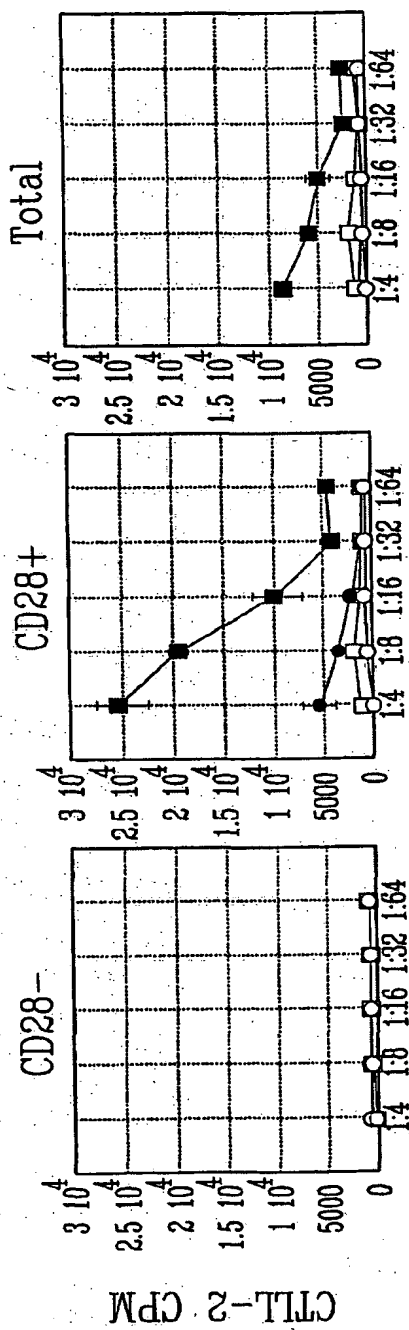


FIG. 9A

+

+

18/49

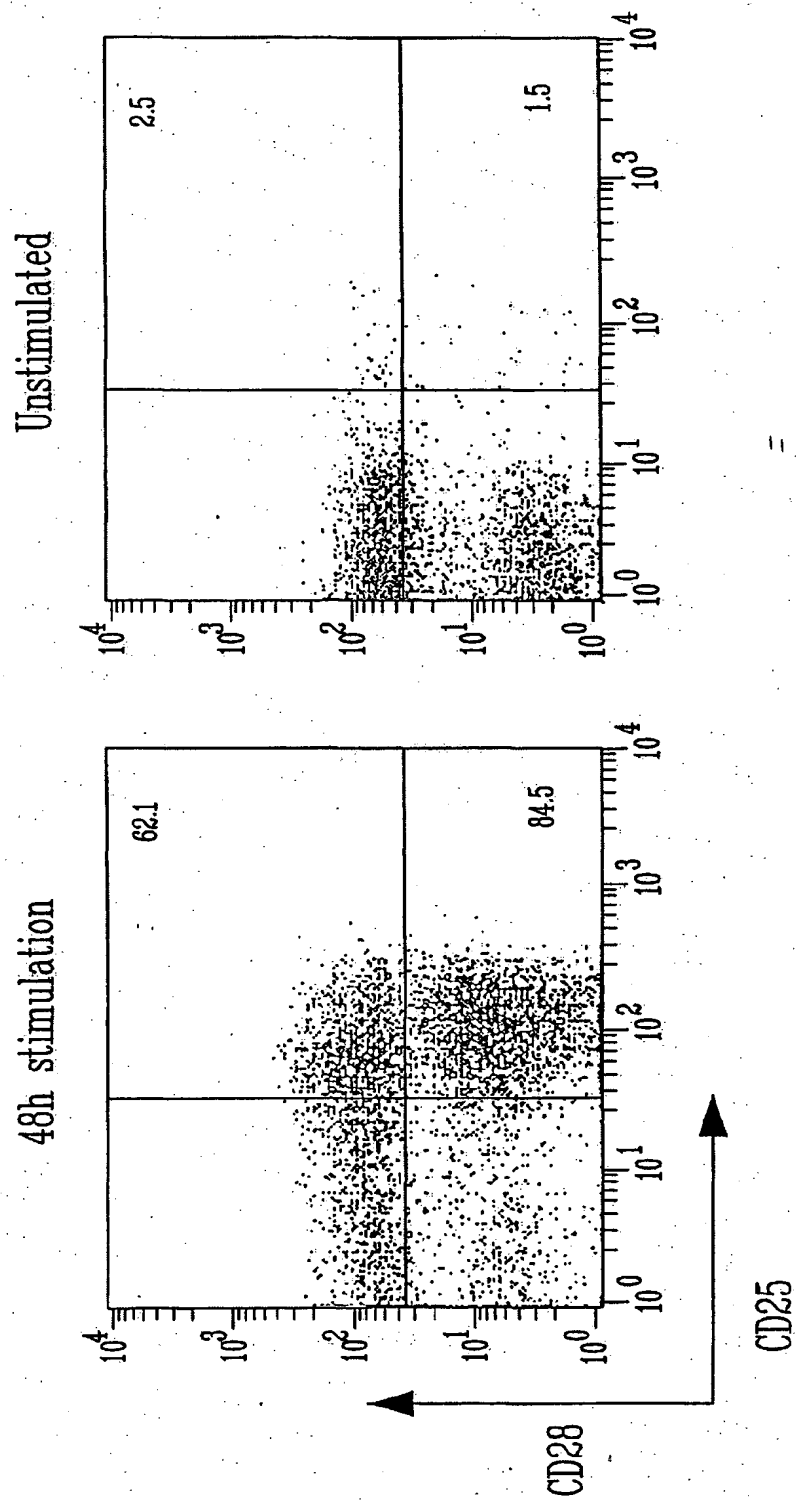


FIG. 9B

+

+

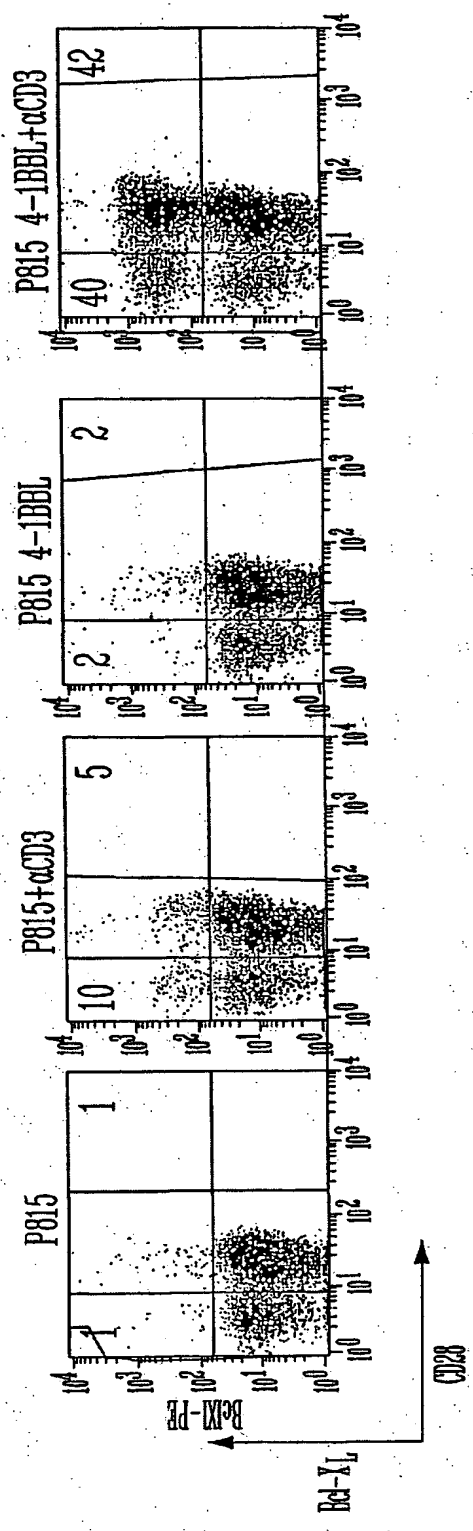


FIG. 10

+

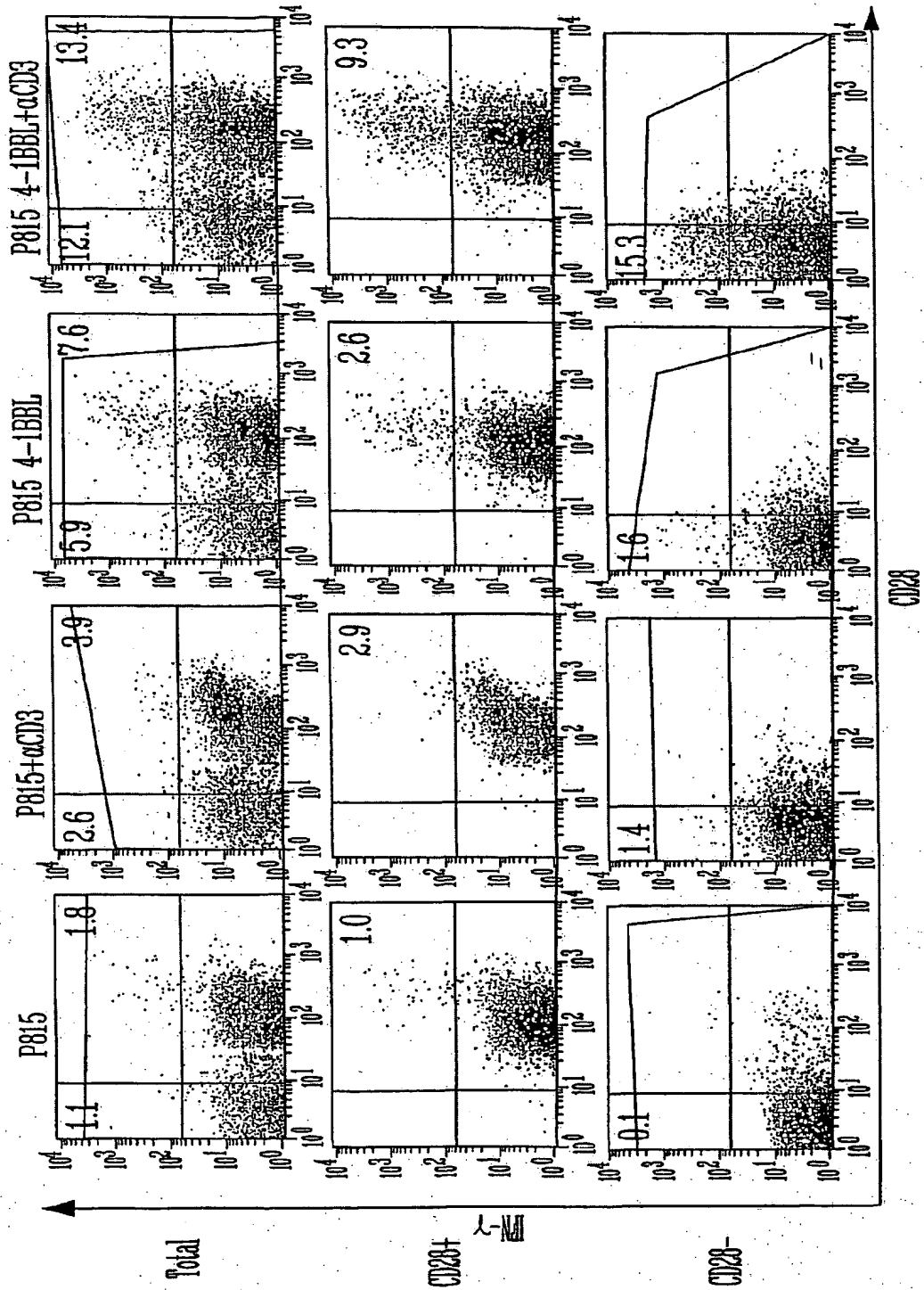
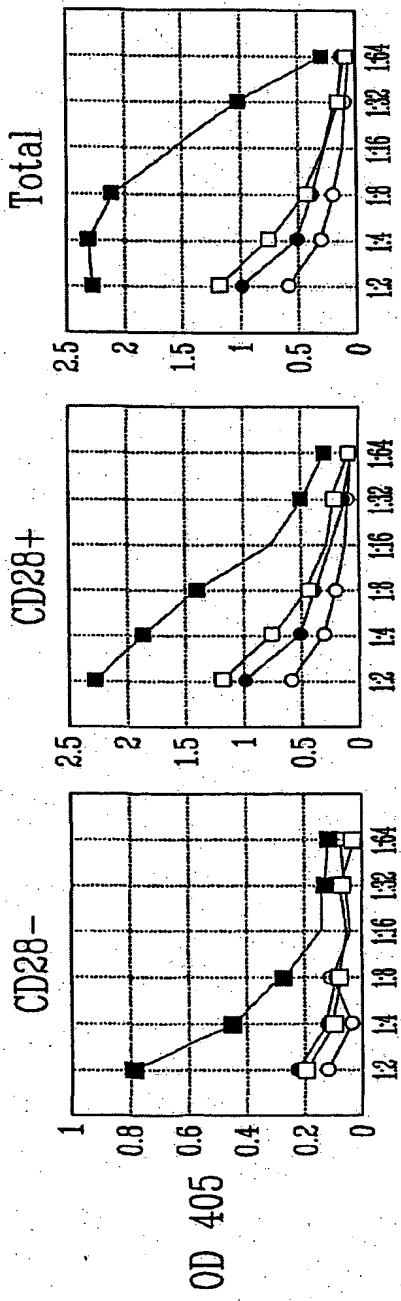


FIG. 11A

+



Supernatant Dilution

FIG. 11B

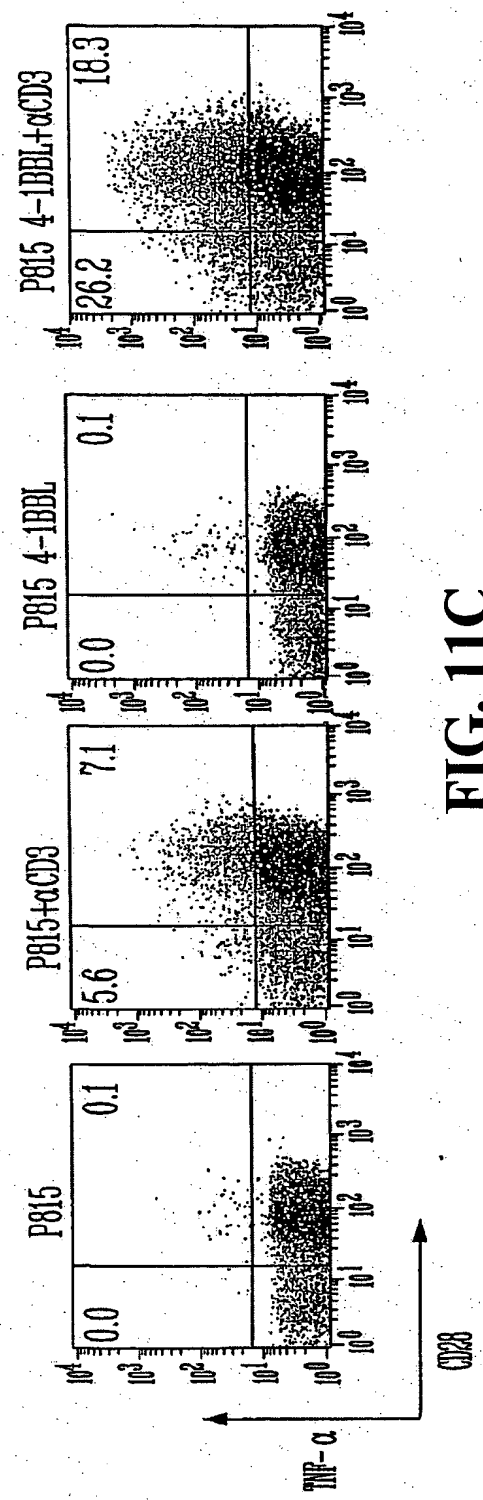


FIG. 11C

+

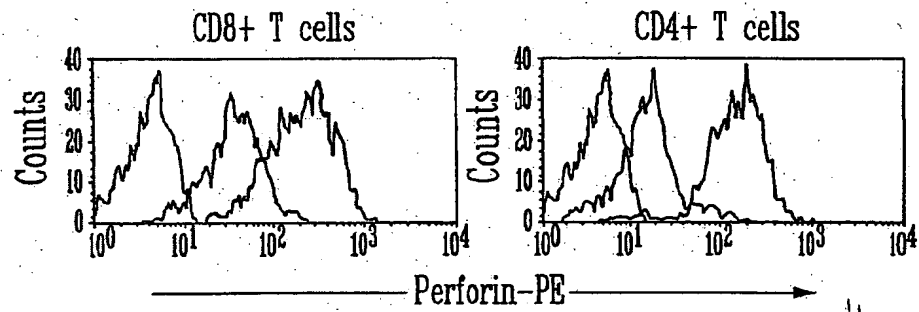


FIG. 12A

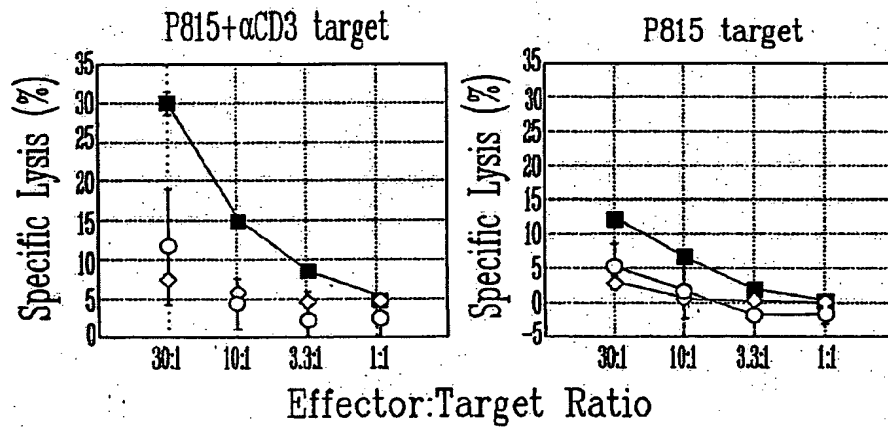


FIG. 12B

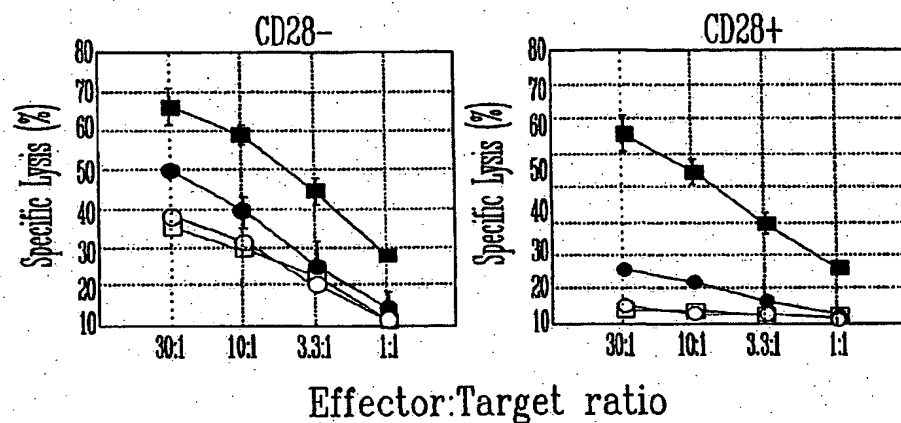


FIG. 12C

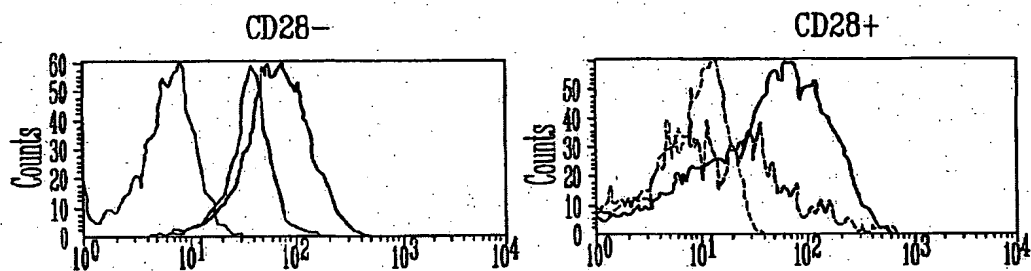


FIG. 12D

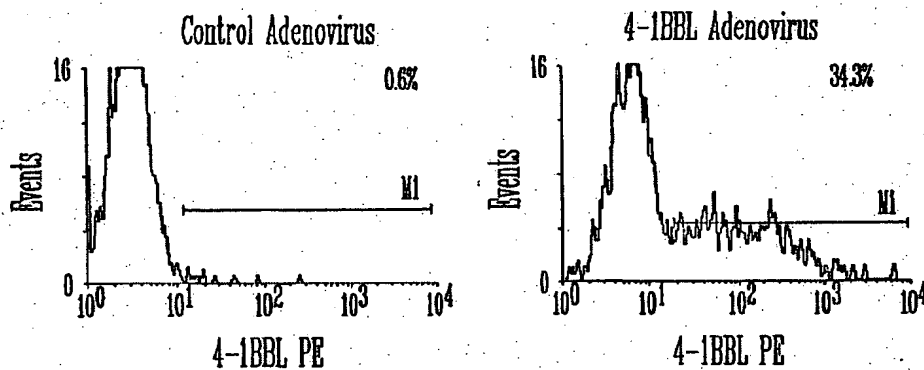


FIG. 13

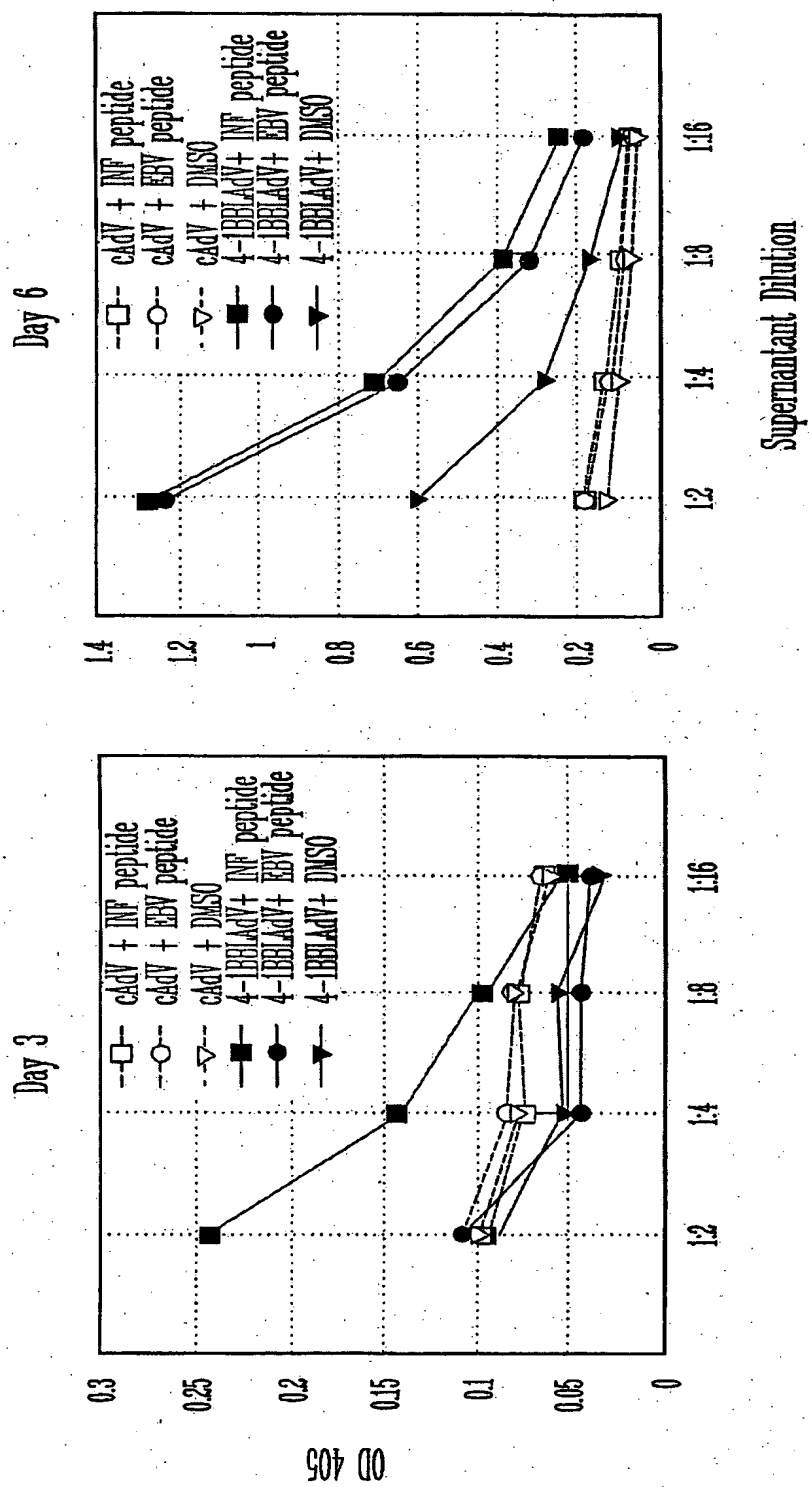


FIG. 14

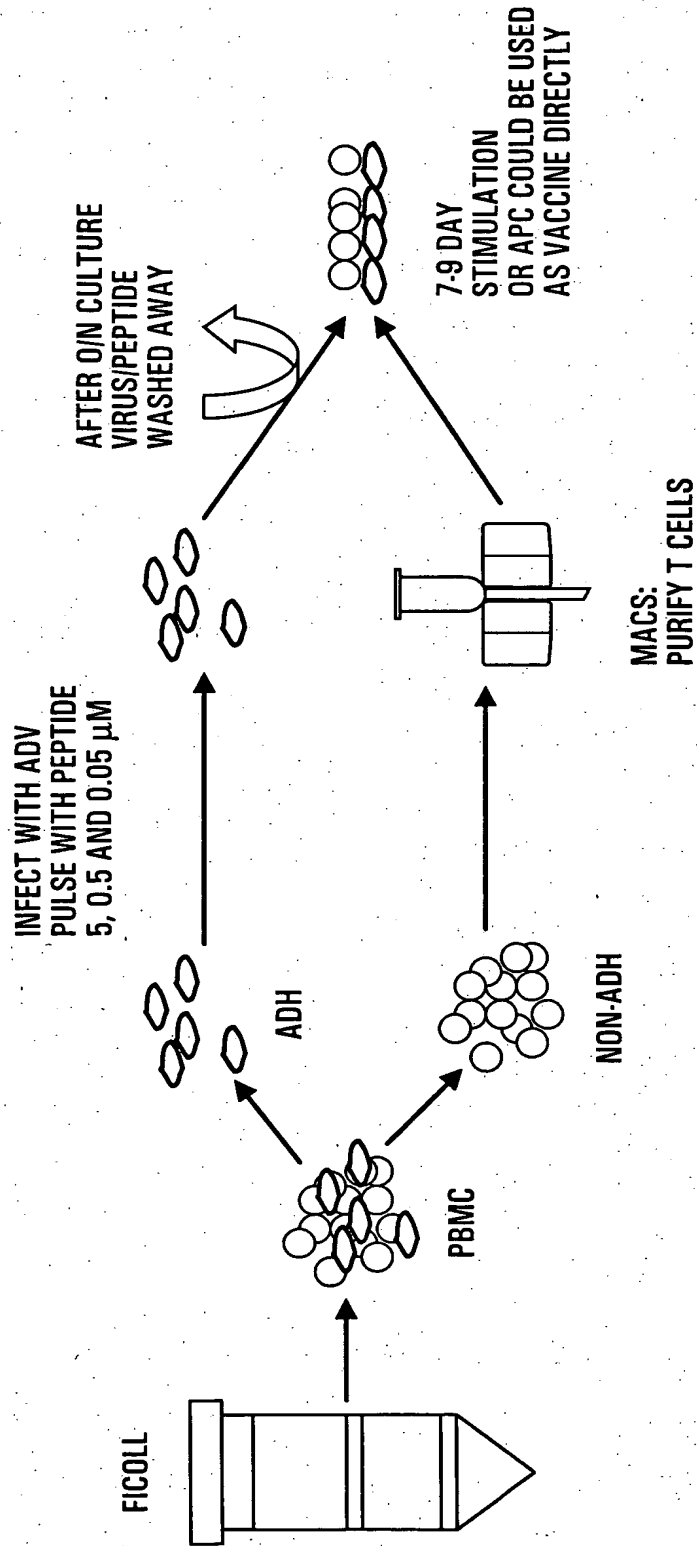


FIG. 15

+

26/49

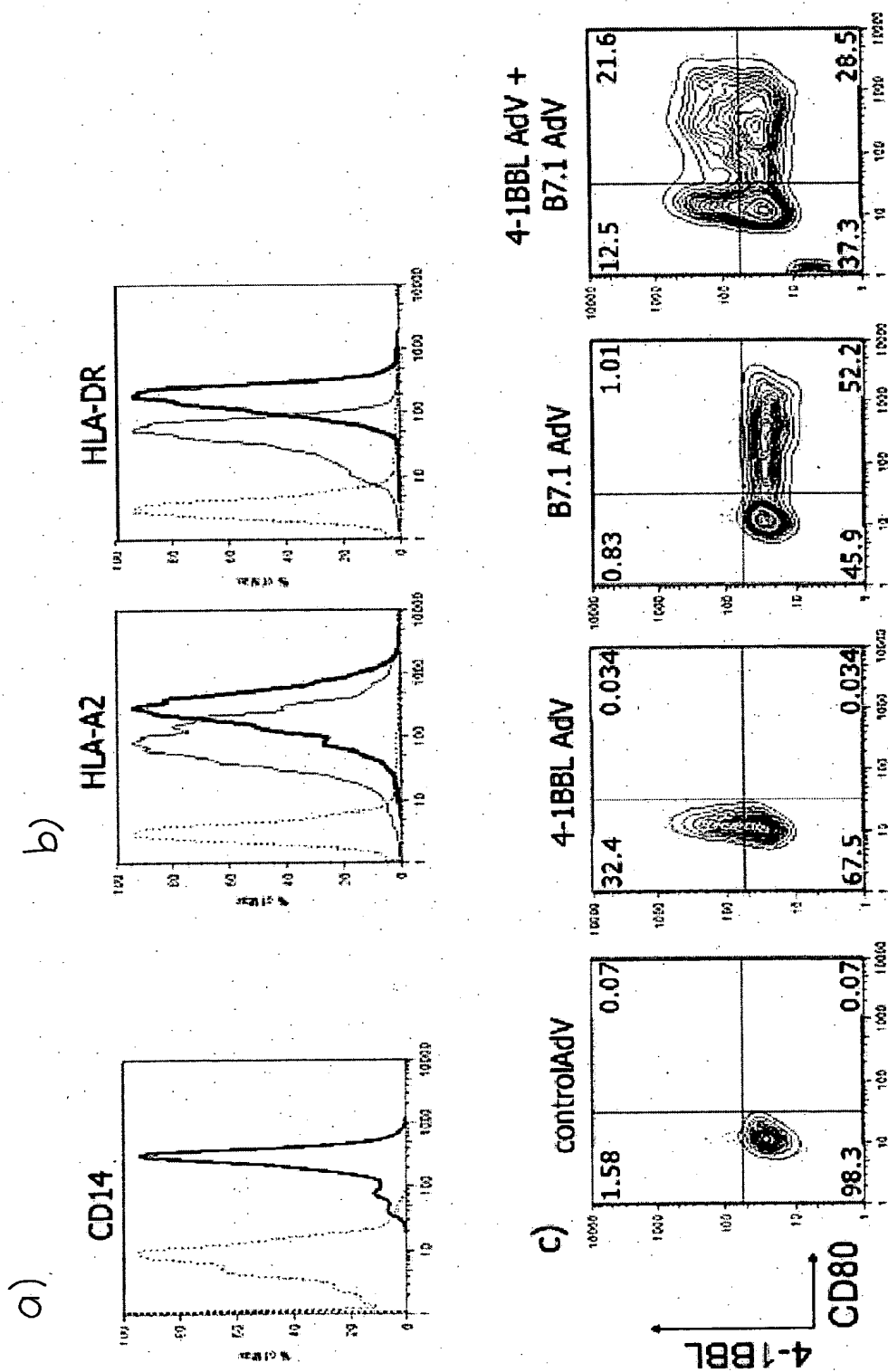
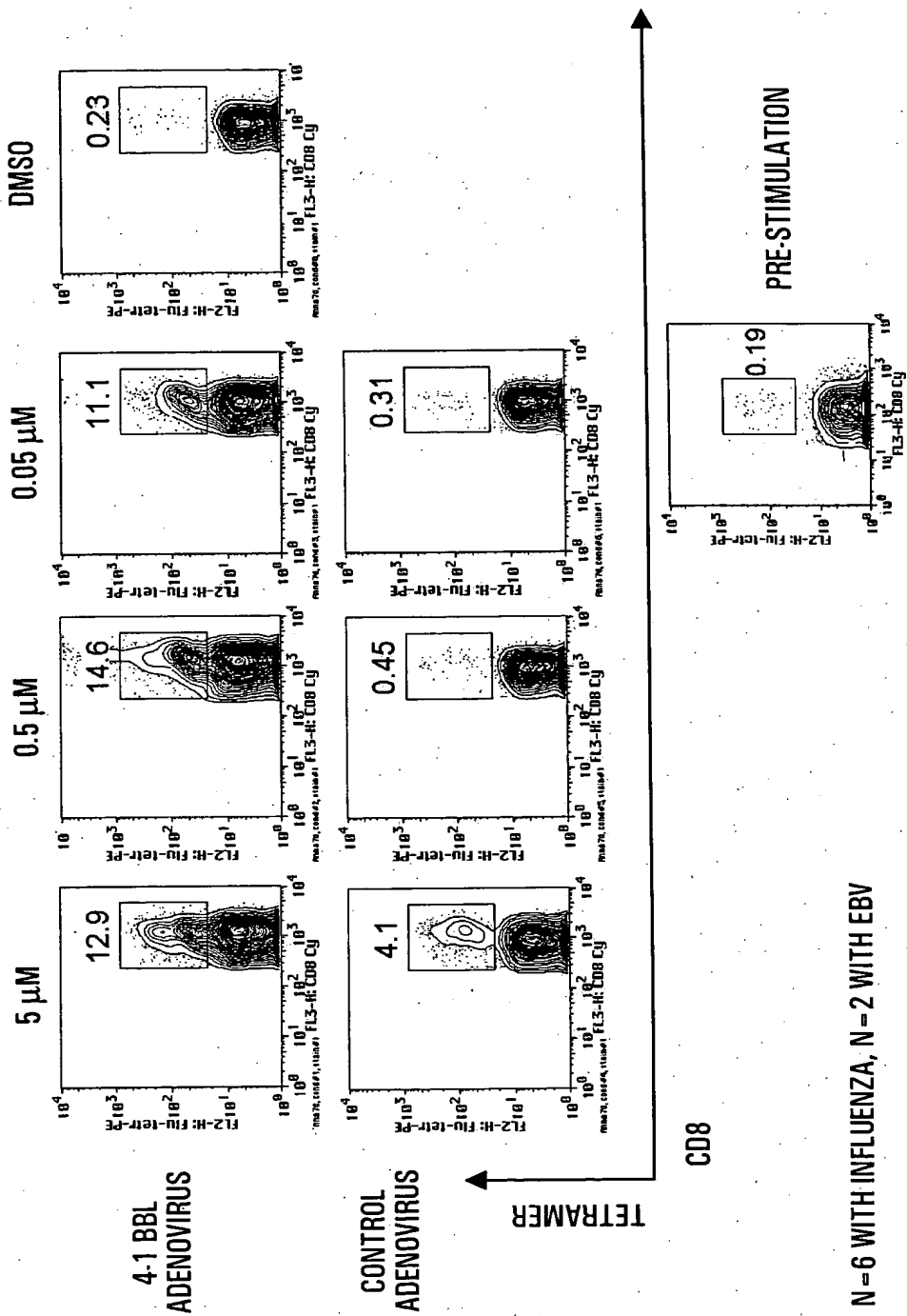


FIG. 16

+

(7-DAY STIMULATION)



N=6 WITH INFLUENZA, N=2 WITH EBV

FIG. 17

(7-DAY STIMULATION)

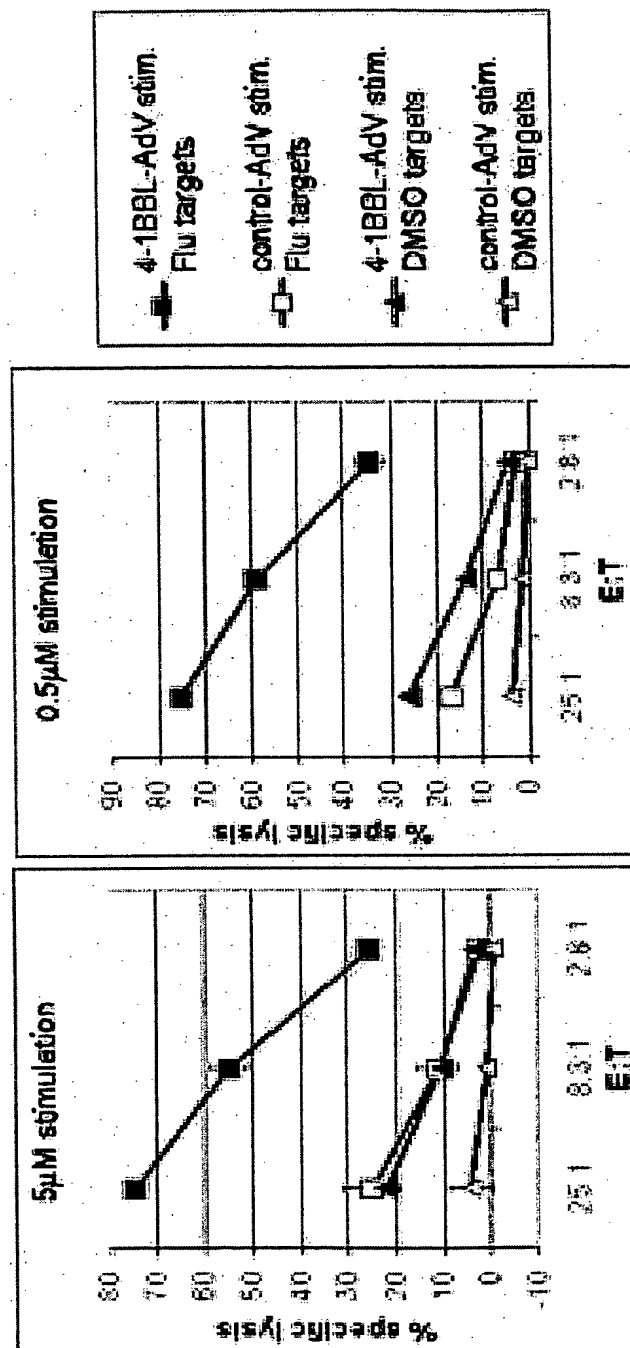


FIG. 18

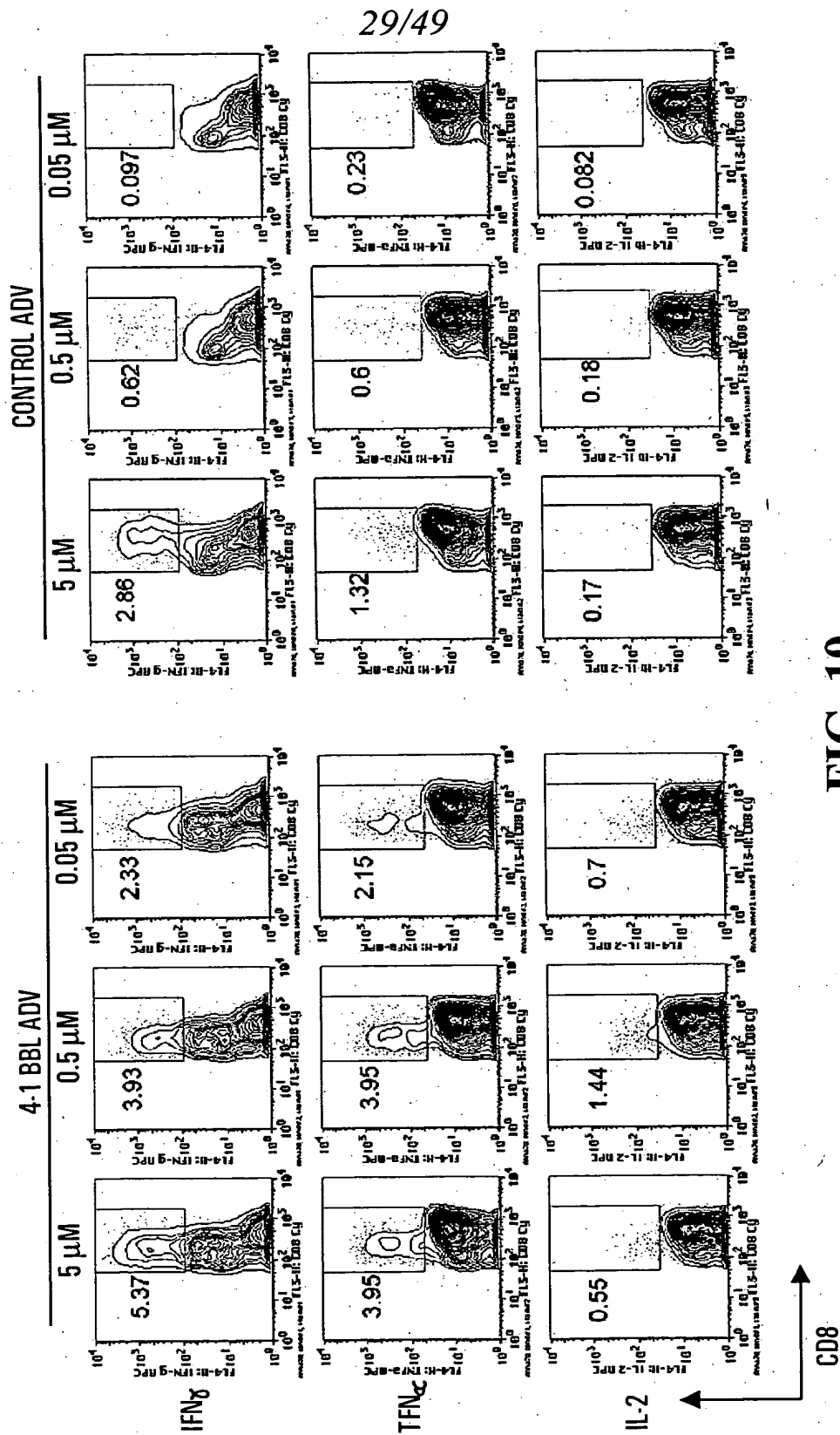


FIG. 19

+

30/49

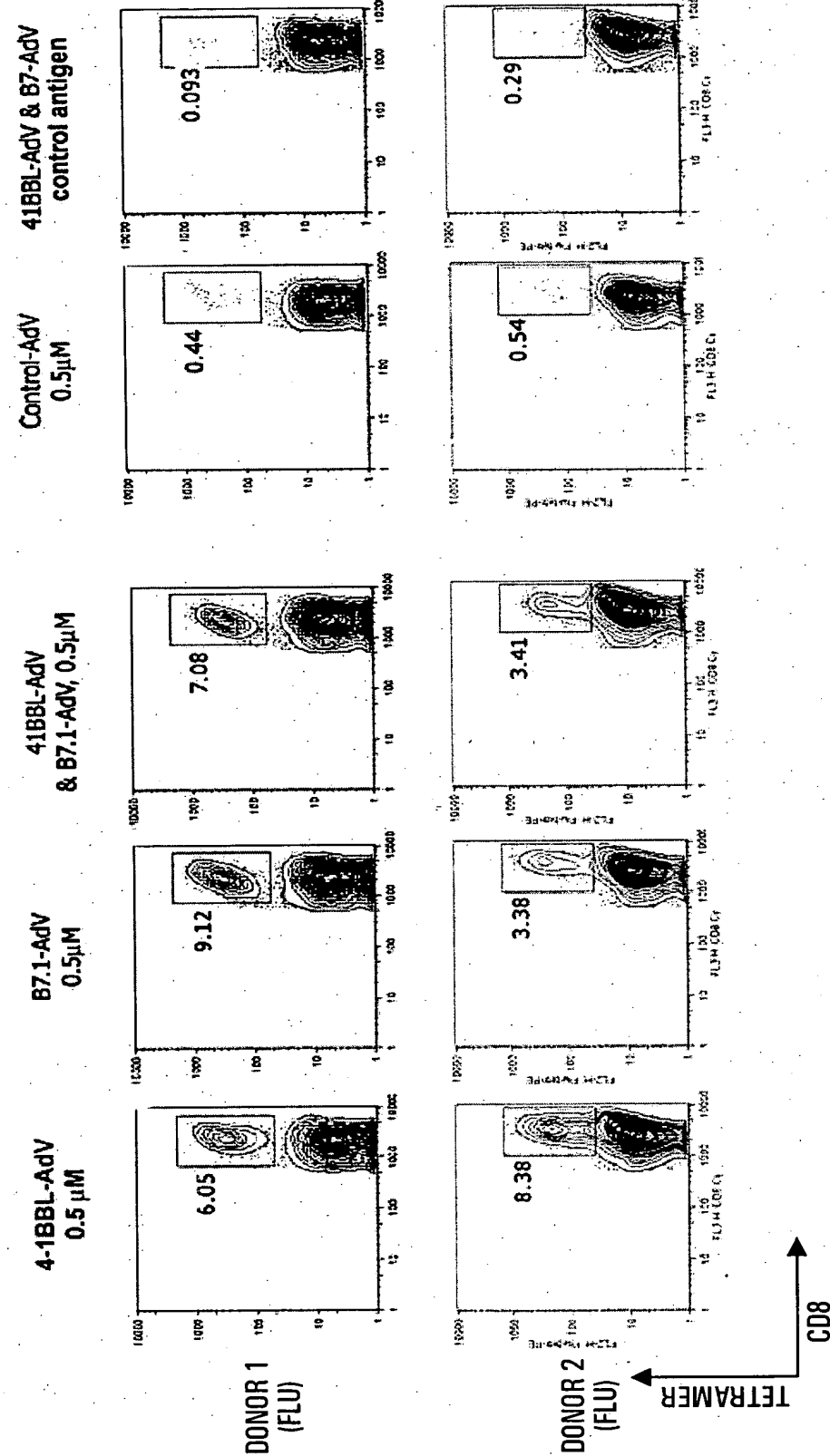


FIG. 20

+

+

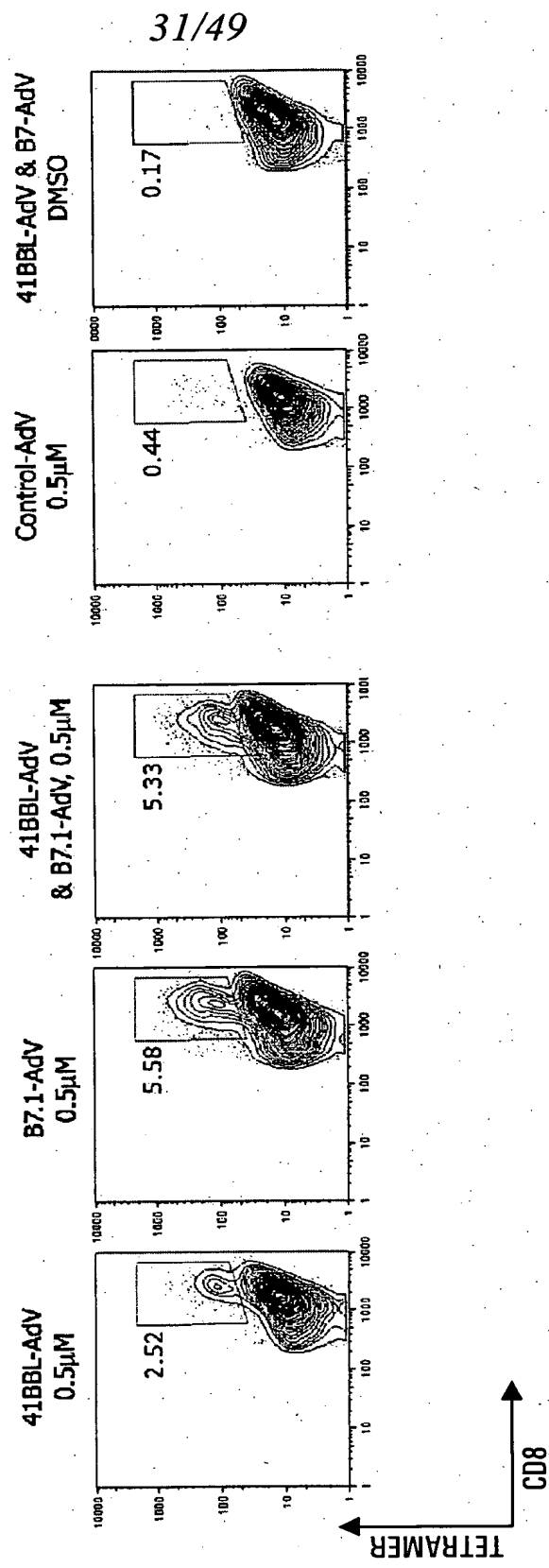


FIG. 21

+

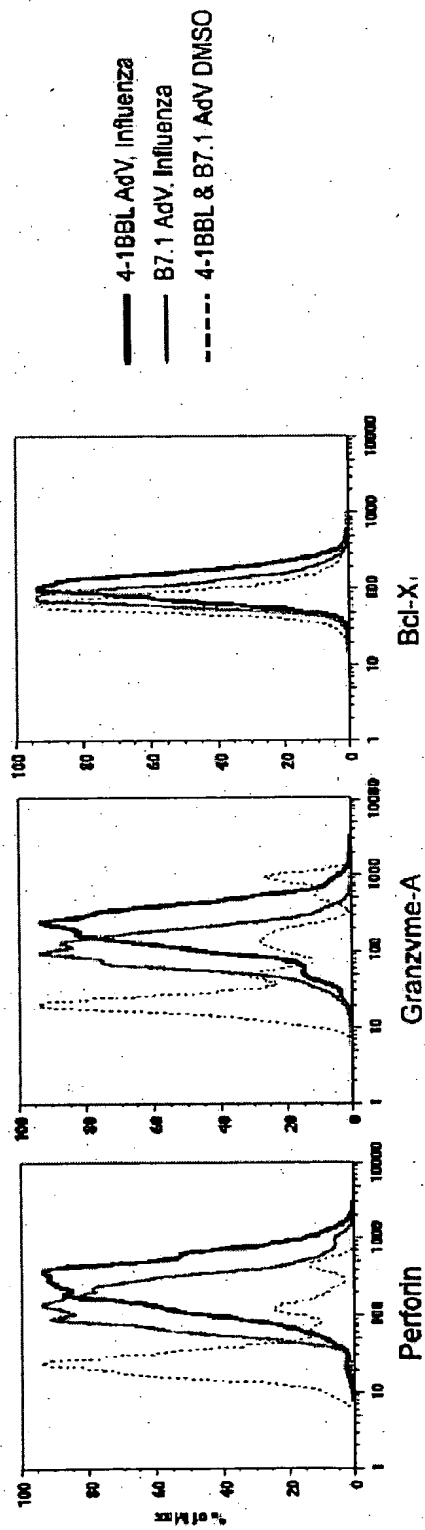


FIG. 22

+

33/49

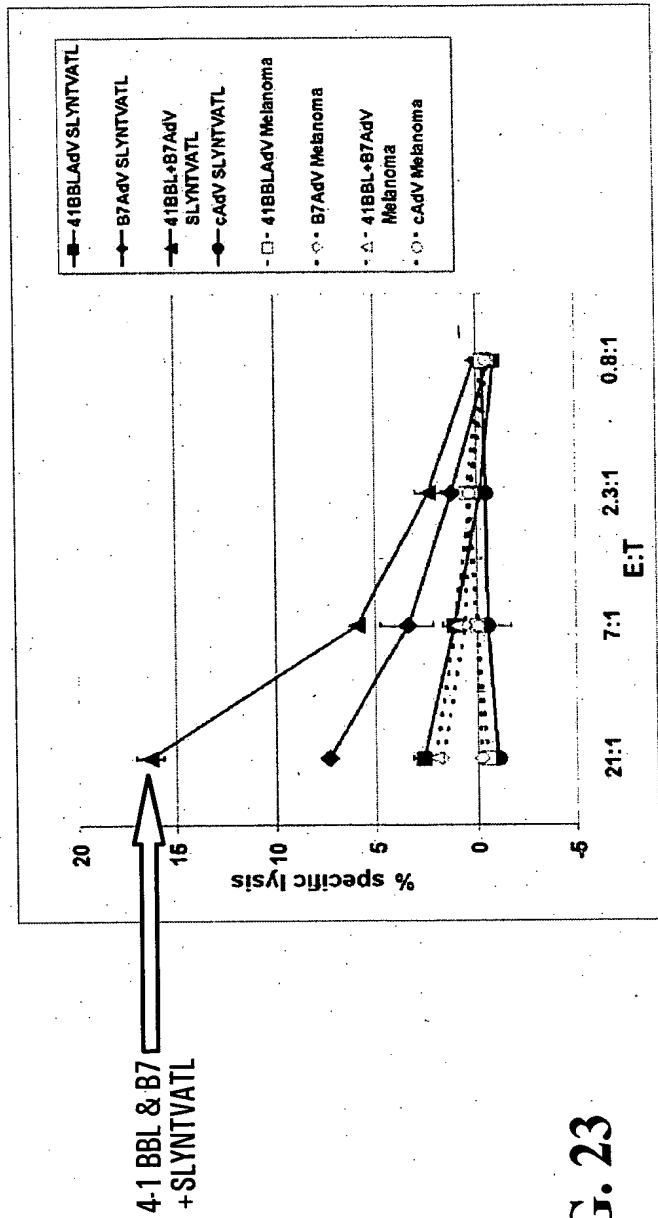
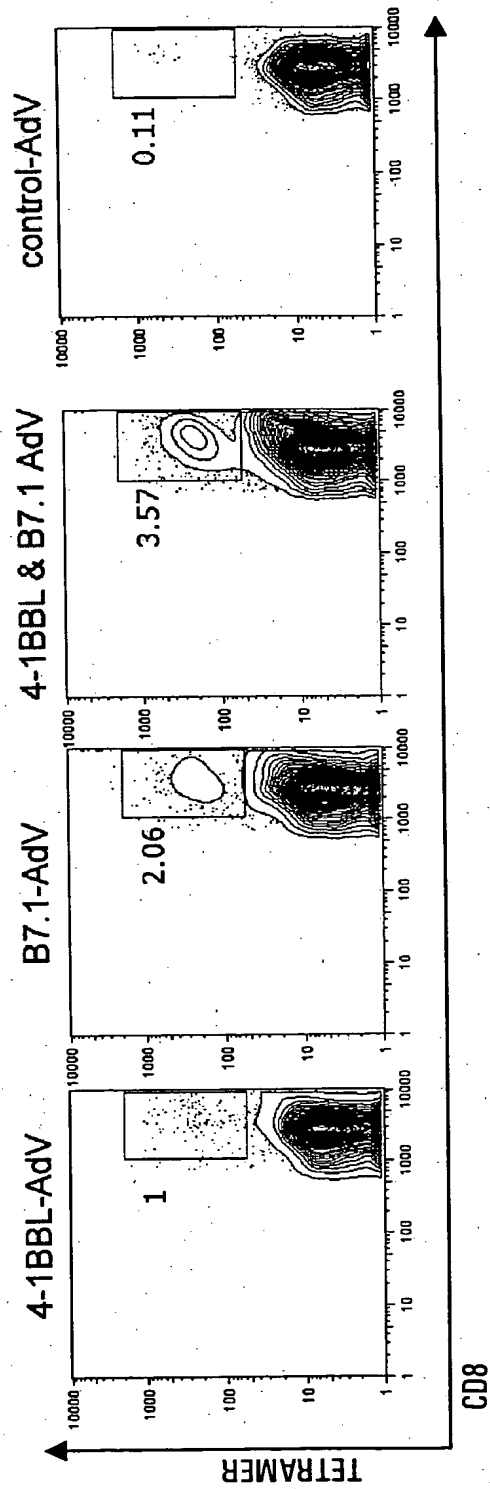


FIG. 23

+

+

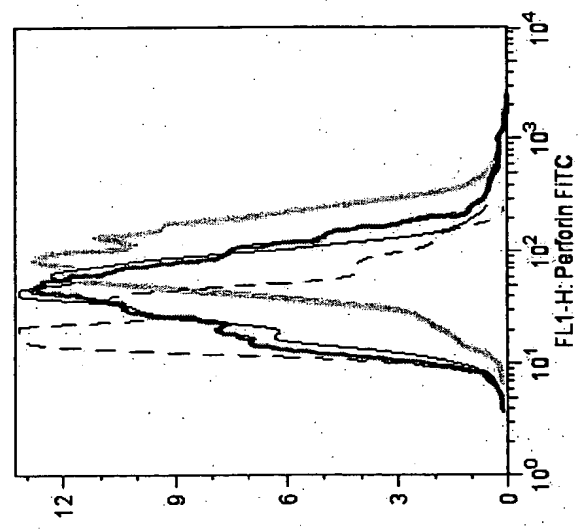
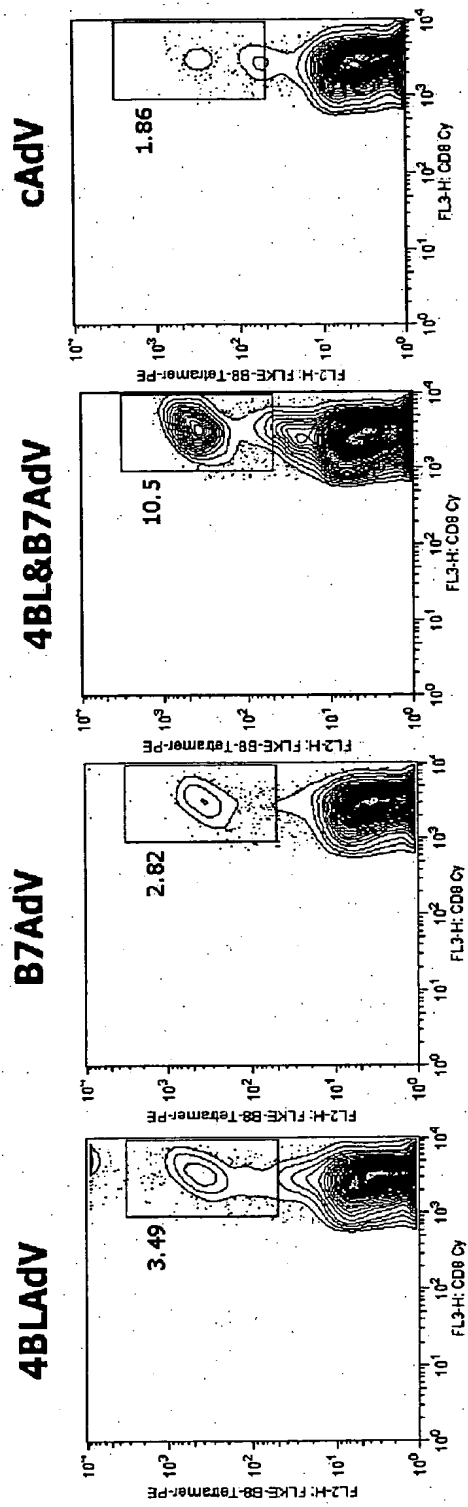


FIG. 24

+

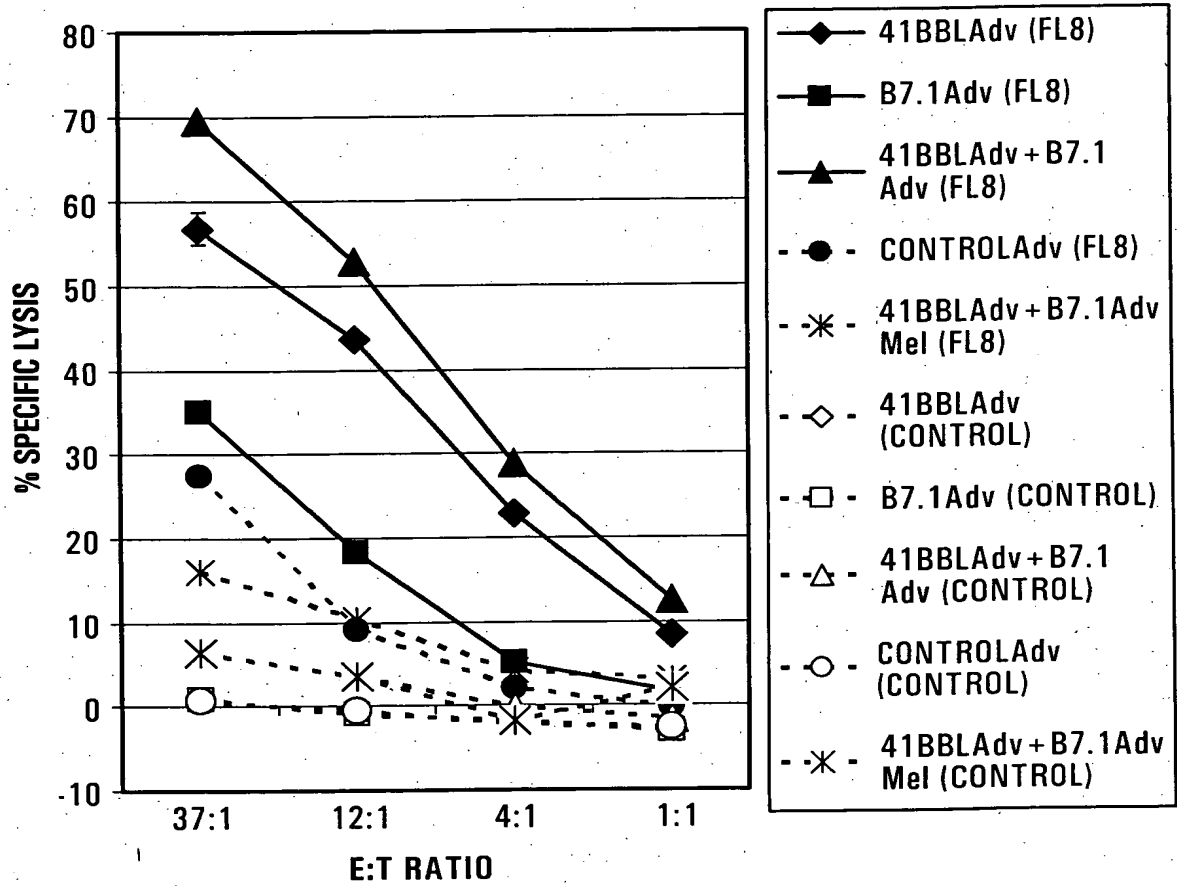


FIG. 25

+

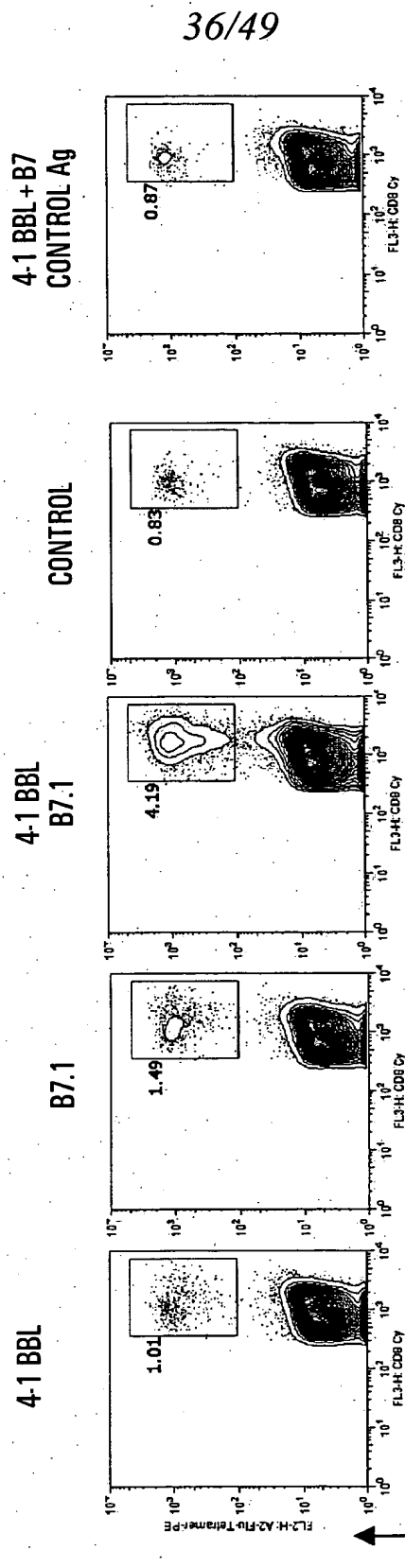


FIG. 26

+

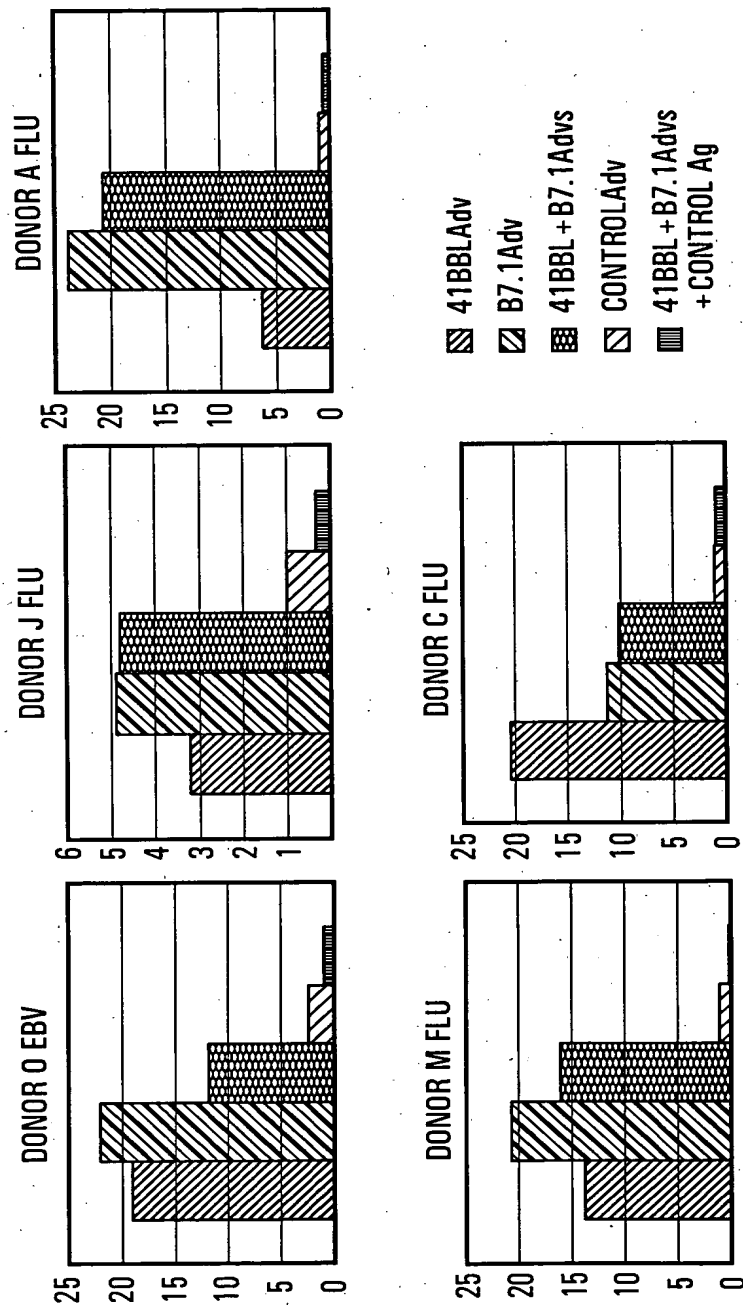


FIG. 27

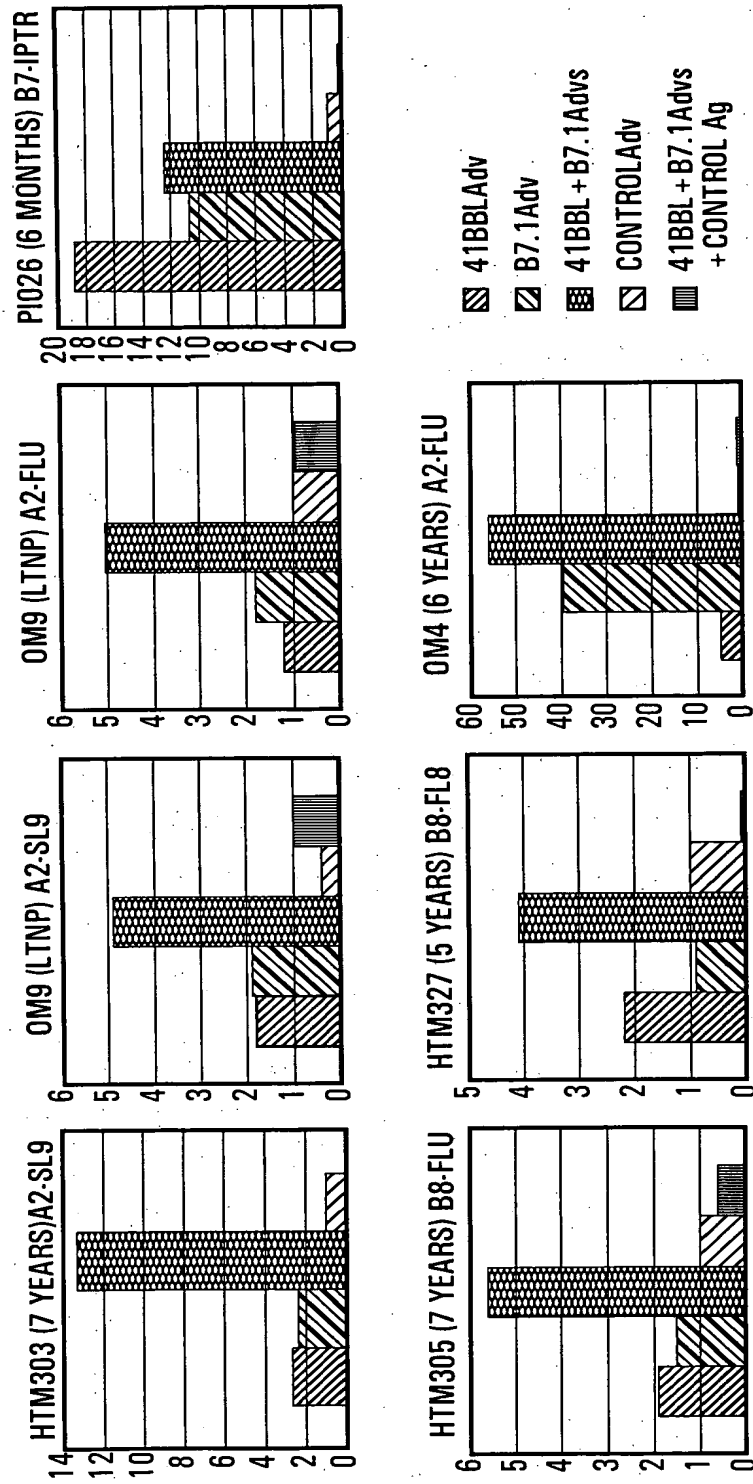


FIG. 28

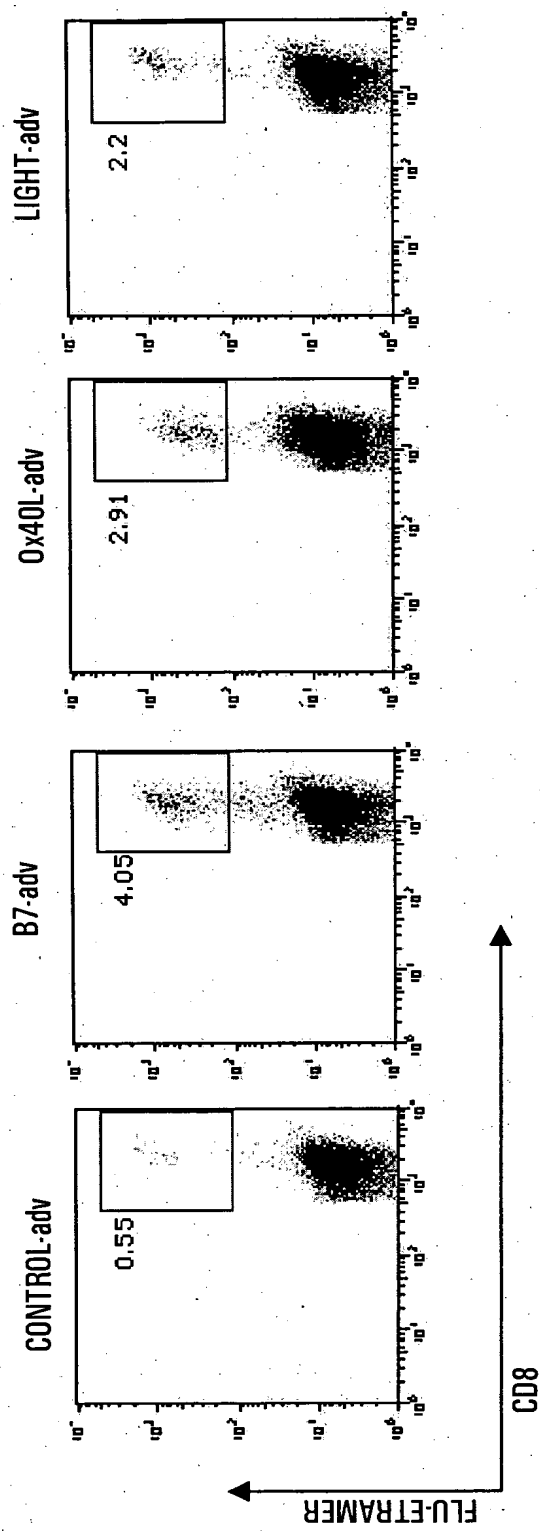


FIG. 29

+

40/49

HUMAN 4-1BBL DNA SEQUENCE (SEQ ID NO: 1)

```

1  gtcatggaat acgctctga cgcttcactg gaccccgaaag cccctgggc tcccgcgccc
61  cgcgctcgcg cctgccgcgt actgcccttg gccctggtcg cggggtgct gctgctgctg
121 ctgctcgctg ccgctcgcg cgtcttcctc gctgccccct gggcggtgc cggggctcgc
181 gcctcgcccc gctccgcgcc cagccccaga ctcccgagag gtcccgagct tgcgccccgac
241 gatcccgccc gcctcttgga cctgcggcag ggcatgtttg cgcagctggt ggccecaaat
301 gttctgctga tcgatgggcc cctgagctgg tacagtgaac caggcctggc aggcgtgtcc
361 ctgacggggg gcctgagcta caaagaggac acgaaggagc tgggtggtgg caaggctgga
421 gtctactatg tcttctttca actagagctg cggcgctggg tggcgcgga gggctcaggg
481 tccggtttcac ttgcgctgca cctgcagcca ctgcgctctg ctgctggggc cgcgcgccctg
541 gctttgaccg tggacctgcc accgcctcc tccgaggctc ggaactcggc ctccggtttc
601 cagggccgct tgcctgacct gagtgcgggc cagcgctgg gcgtccatct tcacactgag
661 gccaggggcac gccatgcttg gcagcttacc cagggcgcca cagtcctggg actcttcggg
721 gtgacccccg aaatcccagc cggactccct tcaccatcc taccatggag ttcattggag
781 gtgcagcccc cctggacaga gtccgaatcc tactccatcc ggcctggcag gggctccctgc
841 tgggtccctg ctgctttctc tactcaagg ggcctggcag accctgatat ttattctgag
901 ccttgaggga cctcctcac tataatat tctctcttcc ccaagtgg accctgatat
961 cctgagctca gataatat tctctcttcc ccaagtgg accctgatat ttattctgag
1021 gatcctgagt ttgtgaatgg acttttttag aggagttggt ttgggggggg ggtcttcgac
1081 attgccgagg ctggtcttga actcctggac tttagacgat cctcgtcctc agcctcccaa
1141 gcaactggga ttcatccttt ctattaattc attgtactta ttgctctatt tgtgtgtatt
1201 gagcatctgt aatgtgccag cattgtgccc aggcctagggg gctatagaaa catctagaaa
1261 tagactgaaa gaaaatctga gttatggtaa tacgtgagga atttaagac tcatccccag
1321 cctccacctc ctgtgtgata cttggggggt agcttttttc tttctttctt ttttttgaga
1381 tggctctggt ctgtcaacca ggctagaatg cagcgggtgc atcatgagtc aatgcagcct
1441 ccagcctcga cctcccgagg ctacagtgat cctcccatct cagcctctcg agtagctggg
1501 accacagttg tgtgccacca cacttgcta actttttaat ttttttgagg agacggtatt
1561 gctatgttgc caagttgtt tacatgccag tacaatttat aataaacact catttttcc

```

HUMAN 4-1BBL POLYPEPTIDE SEQUENCE (SEQ ID NO: 2)

```

MEYASDASLD PEAPWPPAPR ARACRVLPWA LVAGLLLLLL LAAACAVFLA CPWAVSGARA
SPGSAASPRLL REGPELSPDD PAGLLDLRQG MFAQLVAQNV LLIDGPLSWY SDPGLAGVSL
TGGLSYKEDT KELVVAKAGV YYVFFQLELR RVVAGEGSGS VSLALHLOPL RSAAGAAALA
LTVDLPPASS EARNSAFGEFQ GRLLHLSAGQ RLGVHLHTEA RARHAWQLTQ GATVLGLFRV
TPEIPAGLPS PRSE

```

FIG. 30

+

HUMAN B7.1 DNA SEQUENCE (SEQ ID NO: 3)

```

1  aagtaacaga agttagaagg ggaatgtcg cctctctgaa gattacccaa agaaaaagtg
61  atttgtcatt gctttataga ctgtaagaag agaactctc agaagtggag tcttaccctg
121  aatcaaaagg atttaaagaa aaagtggaat ttttcttcag caagctgtga aactaaatcc
181  acaacctttg gagaccagg aacacctcc atctctctg aatcttgtta acatcactgg
241  aggtctctct acgtgagcaa ttggattgtc atcagccctg cctgttttgc accctgggaag
301  tgccttggtc ttacttggtt ccaaatgtt ggttttcacl tttgacccca agcatctgaa
361  gccatgggcc acacacggag gcagggaaca tcacctcca agtgtccata cctcaatttc
421  tttcagctct tggctgtggc aacgctgtcc tggctttct cacttctgtt caggtgttat ccacgtgacc
481  aaggaaagtg aagaagtggc gatctactg gcaaaaggag agaaaatgg tgtgtctgtg
541  gcacaaactc tatggcccgat gacccatct gtacaaagac cggaccatct ttgatatcac taataacctc
601  gacatgaata tccctgctct gcgcccatt gacgagggca catcacgtg atgtgtctgg
661  tccattgtga tccctgctct caagcgggaa cactggctg tttgaaatcc caacttctaa tattagaagg
721  aagtatgaaa aagacgcttt tatactgac aggttttcca gacctcacc ctgaaactga gctctatgct
781  gctgacttcc ctacacctag caacctctgg cacaacagtt tcccaagacc gcttcatctg tctcatcaag
841  ataatttgct caacctctgg cacaacagtt caatatgaca aactgaatc accttaatct cagtaaatgg aatttttgtg
901  gaagaattaa atgcccataa caatatgaca tcagaccttc aactggaata agatgcagag agagaaggag gaatgagaga
961  gttagcacatt aactggattt tgctcccatc ctgggcccatt ctttgcccca agatgcagag agagaaggag ggctgaaaag
1021  ctgtataacc tgctcccatc tgacctactg ctttgcccca agatgcagag agatgcagag ggctgaaaag
1081  atagtgtgcc tgacctactg ctttgcccca agatgcagag agatgcagag agatgcagag ggctgaaaag
1141  ttgagaaggg aaagtgtacg cctgtataaa cagtgtccgc agaagcaagg gctgaaaag
1201  atctgaaggt ctacactcca tttgcaattg acctcttctg ggaactcct cagatggaca
1261  agattacccc acctgccc ttaacgtatct gctcttaggt gcttcttcac ttcagttgct
1321  ttgcaggaaag tgtctagagg aatatggtgg gcacagaagt agctctggtg accttgatca
1381  aggggttttg aaatgcagaa ttcttgagtt ctggaaggga ctttagagaa taccagtgtt
1441  attaatgaca aaggcactga gcccaggga ggtgaccgga attataaagg ccagcgccag
1501  aacccagatt tctaaactct ggtgctcttt cctttatca gtttgactgt ggcctgttaa
1561  ctggtatata cataatatg tcaggcctgg tgctgctgga agtagaattt gtccaataac
1621  aggtcaactt cagagactat ctgatttctt aatgtcagag tagaagattt tatgctgctg
1681  tttacaaaag cccaatgtaa tgcataggaa gtatggcatg aacatcttta ggagactaat
1741  gaaaatatta ttggtgttta ccagatctc catTTTTTtC attgtgttct ctattgctgc
1801  tctctcactc ccccatgagg tacagcagaa aggagaacta tccaaaacta atttctctg
1861  acatgtaaga cgaatgattt aggtacgtca aagcagtagt caaggaggaa agggatagtc
1921  caagacttta actggttcat attggactga taatctcttt aaatggcctt atgctagttt
1981  gacctcattt gtaaaaatatt tatgagaagg ttctcattta aaatgagatc gttgtttaca
2041

```

FIG. 31

2101 gtgtatgtac taagcagtaa gctatcttca aatgtctaag gtagtaactt tccatagggc
 2161 ctccttagat ccctaagatg gctttttctc ctgtgtattt ctgggtcttt ctgacatcag
 2221 cagagaactg gaaagacata gccaaactgct gtatcatgta ctcatgactc ctttctctaa
 2281 aactgccttc cacaattcac tagaccagaa gtggacgcaa cttaagctgg gataatcaca
 2341 ttatcatctg aaaatctgga gttgaacagc aaaagaagac aacatttctc aatgacacat
 2401 ctcatggcag ctaagccaca tggctgggat ttaaagcctt tagagccagc ccatggcctt
 2461 agctacctca ctatgctgct tcacaaacct tgctcctgtg taaaactata ttctcagtgt
 2521 agggcagaga ggtctaacac caacataagg tactagcagt gttcccgta ttgacaggaa
 2581 tacttaactc aataattctt ttcttttcca tttagtaaca gttgtgatga ctatgtttct
 2641 attctaagta attcctgtat tctacagcag atactttgtc agcaatacta agggaagaaa
 2701 caaagttgaa ccgtttctt aataaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 2761 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 2821 aaaa

HUMAN B7.1 POLYPEPTIDE SEQUENCE (SEQ ID NO: 4)

MGHTRRQGTSPKCPYLNFQLLVLGLSHFCSGVIHVTKEVKE
 VATLSCGHNVSEELAQTRIYWQKEKKMVLTMMSGDMNIWPEYKNRTIFDITNNLSIV
 ILALRPSDEGTYESVLYEKDAFKREHLAEVTLVKADFTPSISDFEIPTSNIRRI
 ICSTSGGFPEPHLSWLENGEELNAINTTVSQDPETELYAVSSKLDENMTNHSFMCII
 KYGHLRVNQTFNWN'TTKQEHFPDNLPSWAITLISVNGIFVICCLTYCFAPRCRERR
 NERLRRESVRPV

FIG. 31
 (CONTINUED)

HUMAN B7.2 DNA SEQUENCE (SEQ ID NO: 5)

```

1  ggaaggcttg  cacaggggtga  aagctttgct  tctctgctgc  tgtaacaggg  actagcacag
61  acacacggat  gagtggggtc  atttccagat  attaggtcac  agcagaagca  gccaaaatgg
121  atccccagtg  cactatggga  ctgagtaaca  ttctctttgt  gatggccttc  ctgctctctg
181  gtgctgctcc  tctgaagatt  caagcttatt  tcaatgagac  tgcagacctg  ccatgccaat
241  ttgcaaacctc  tcaaaaccaa  agcctgagtg  agctagtagt  attttggcag  gaccaggaaa
301  acttggttct  gaatgaggtg  tacttaggca  aagagaaatt  tgacagtgtt  cattccaagt
361  atatgggccc  cacaagtctt  gattcggaca  gtggacctt  gagacttcac  aatcttcaga
421  tcaaggacaa  gggcttgat  caatgtatca  tccatcaca  aaagcccaca  ggaatgattc
481  gcatccacca  gatgaattct  gaactgtcag  tgcttgctaa  cttcagtcac  cctgaaaatg
541  taccaatctc  taataataca  gaaatgtgt  acataaattt  gacctgtctc  tctatacacg
601  gttaccacga  acctaaagag  atgagtgtgt  tgctaagaac  caagaattca  actatcgagt
661  atgatgttat  tatgcagaaa  tctcaagata  atgtcacaga  actgtacgac  gtttccatca
721  gcttgcttgt  ttcatctcct  gatgttacga  gcaatatgac  catcttctgt  attctggaaa
781  ctgacaagac  gcggctttta  tcttcacctt  tctctataga  gcttgaggac  cctcagcctc
841  cccagacca  cattccttgg  attacagctg  tacttccaac  agttattata  tgtgtgatgg
901  ttttctgtct  aattctatgg  aaatggaaga  agaagaagcg  gcctcgcaac  tcttataaat
961  gtggaaccaa  cacaatggag  agggaagaga  gtgaacagac  caagaaaaga  gaaaaaatcc
1021  atatacctga  aagatctgat  gaagcccagc  gtgtttttaa  aagttcgaag  acatcttcat
1081  gcgacaaaaa  tgatacatgt  ttttaattaa  agagtaaagc  ccatacaagt  attcattttt
1141  tctacccttt  cctttgtaag  ttccctgggc  acccttttga  tttcttccag  aaggcaaaaa
1201  gacattacca  tgagtaataa  gggggctcca  ggactccctc  taagtggaat  agcctccctg
1261  taactccagc  tctgctccgt  atgccaagag  gagactttaa  ttctcttact  gcttcttttc
1321  acttcagagc  acacttatgg  gccaaagcca  gcttaaatgg  tcatgacctg  gaaataaaa
1381  ttaggaccaa  tacctcctcc  agatcagatt  cttctcttaa  ttcatagat  tgtgtttttt
1441  tttaaaataga  cctctcaatt  tctggaaaaa  tgccttttat  ctgcccagaa  tcttaagctg
1501  gtgccccact  gaatcttgtg  tacctgtgac  taaacaacta  cctcctcagt  ctgggtggga
1561  cttatgtatt  tatgacctta  tagtgttaat  atcttgaaac  atagagatct  atgtactgta
1621  atagtgtgat  tactatgctc  tagagaaaaa  tctacccttg  ctaaggagtt  ctcatccctc
1681  tgtcagggtc  agtaaggaaa  acggtggcct  aggttacagg  caacaatgag  cagaccaacc
1741  taaatttggg  gaaattagga  gaggcagaga  tagaacctgg  agccacttct  atctgggctg
1801  ttgctaatat  tgaggaggct  tgccccacc  acaagccat  agtggagaga  actgaataaa
1861  caggaaaatg  ccagagcttg  tgaacctgt  ttctctgaa  gaactgacta  gtgagatggc
1921  ctggggaagc  tgtgaaagaa  ccaaaagaga  tcacaatact  caaaagagag  agagagagaa
1981  aaaagagaga  tcttgatcca  cagaaaata  tgaatgtct  ggtctgtcca  ccccatcaac
2041  aagtccttga  acaagcaaca  gatggatagt  ctgtccaaat  ggacataaga  cagacagcag
2101  tttccctggt  ggtcaggagg  gggttttggt  gatacccaag  ttattgggat  ttcattcttc

```

FIG. 32

2161 tggaagcaga gctggggagg gagagccatc accttgataa tgggatgaat ggaaggaggc
 2221 ttaggacttt ccactcctgg ctgagagagg aagagctgca acggaattag gaagaccaag
 2281 acacagatca cccggggctt acttagccta cagatgtcct acgggaacgt gggctggccc
 2341 agcatagggc tagcaaat ttagtgatg agttgtttg ctcaaggcaa ccagaggaaa
 2401 ctgcatata gagacagata tactgggaga aatgactttg aaacctggc tctaagggtgg
 2461 gatcactaag gtaggggca gtctctgcc aaacataaag agaactctgg ggagcctgag
 2521 ccacaaaaat gtccctttat ttatgtaaa ccctcaagg ttatagactg ccatgctaga
 2581 caagcttgtc catgtaatat tcccatgttt ttaccctgcc cctgccttga ttagactcct
 2641 agcacctggc tagtttctaa catgttttgt gcagcacagt ttttaataaa tgcttgttac
 2701 attcaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
 2761 aaaaaaaaaa aaaaaaaaaa a

HUMAN B7.2 POLYPEPTIDE SEQUENCE (SEQ ID NO: 6)

MDPQCTMGLSNILFVMAFLLSGAAPLKIQA YFN ETADLPCQFAN
 SQNSLSELVFWQDENLVLNEVYLGKEKEDSVH SKYMGRTSFDSDSWTLRLHNLQI
 KDKGLYQCI IHHKKPTGMIRI HQMNS ELSVL ANFSQPEI VPI SNITENVYINLTCS SI
 HGYPEPKKMSVLLR TKNST IEYD GIMQKSQDNVTELYDVSISLSVSFPDVT SNMTIFC
 ILETDKTRL LSSPFS IELEDQPPPDHIPWITAVLPTVICVMVFCLILWKWKKKRFP
 RNSYKCGTNTMEREESEQTKKREKIHIPERSDEAQRVFKSSKTS SCDKSDTCF

FIG. 32
 (CONTINUED)

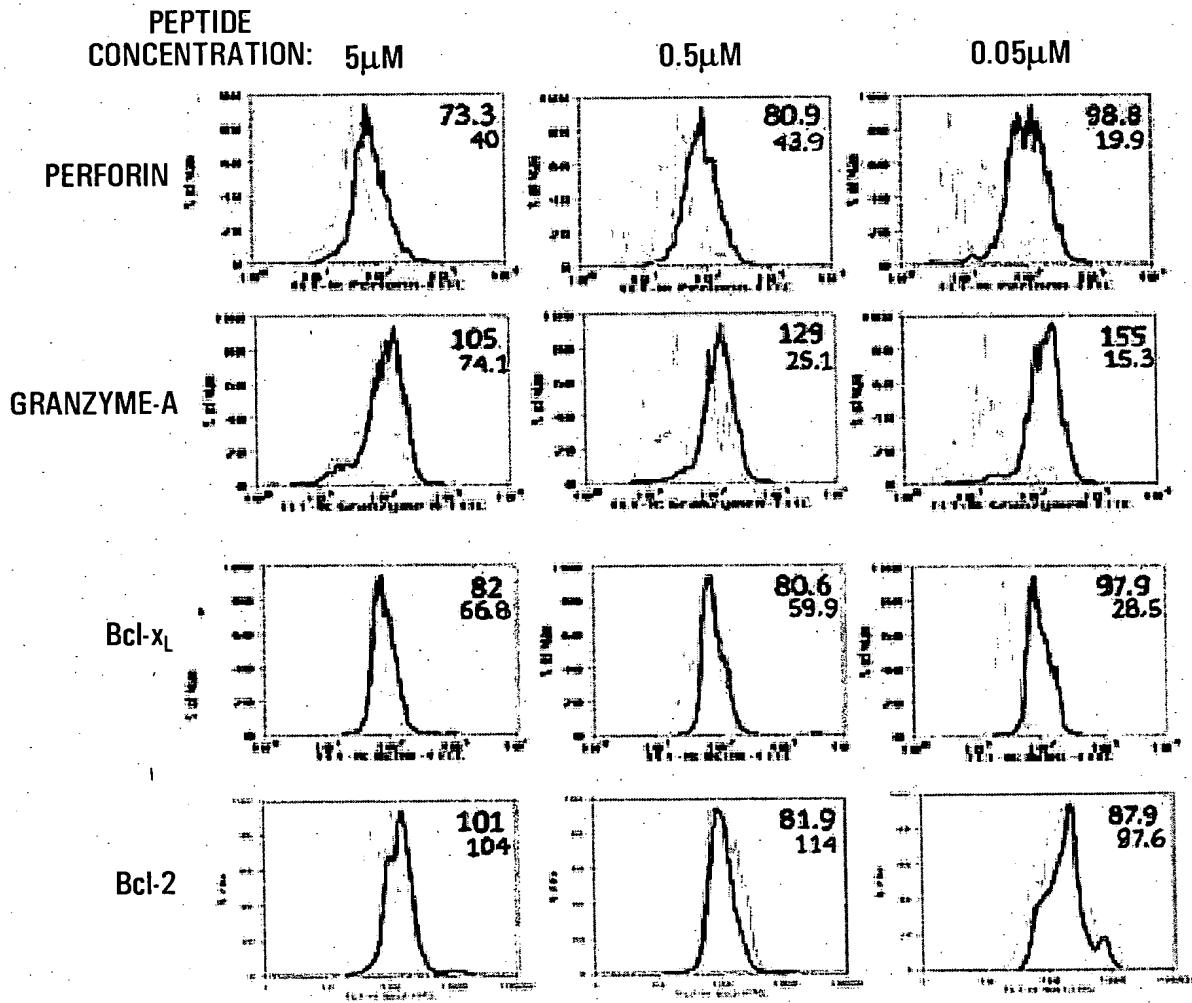


FIG. 33

+

46/49

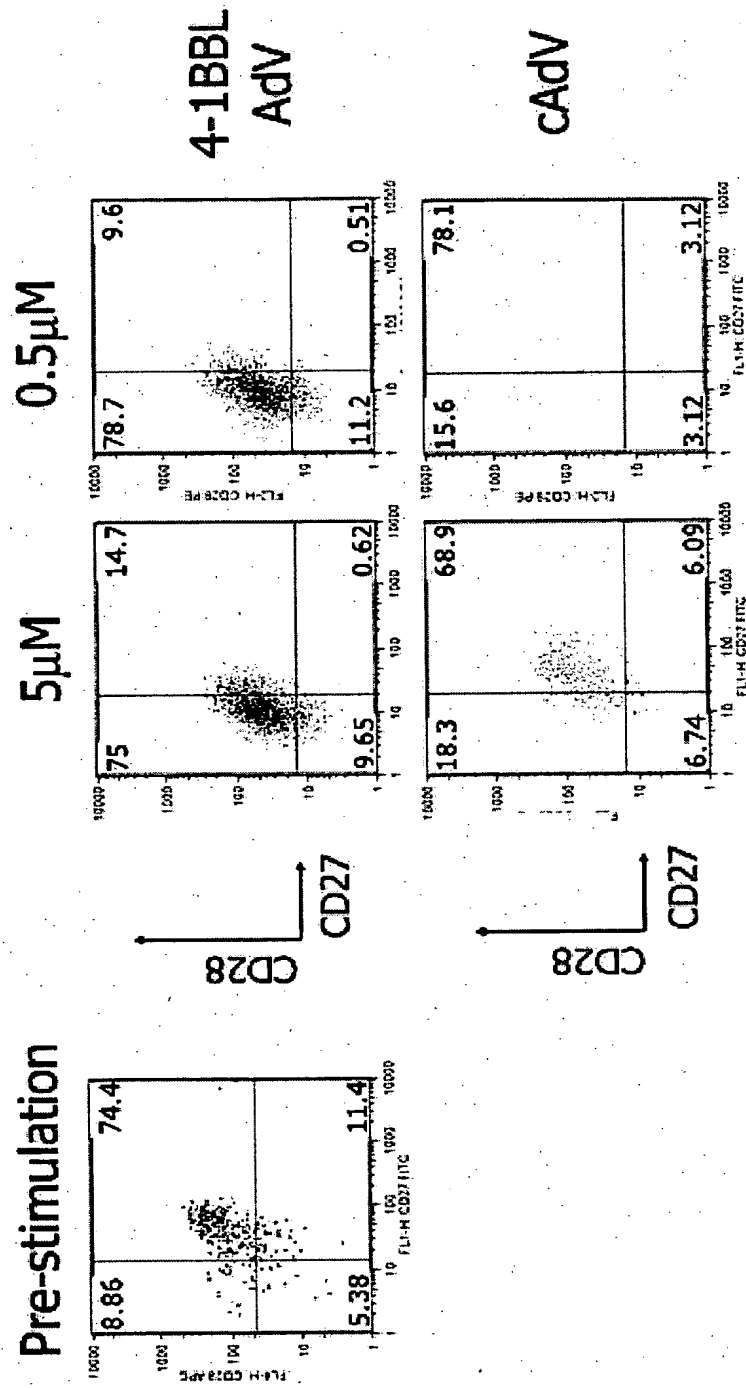


FIG. 34

+

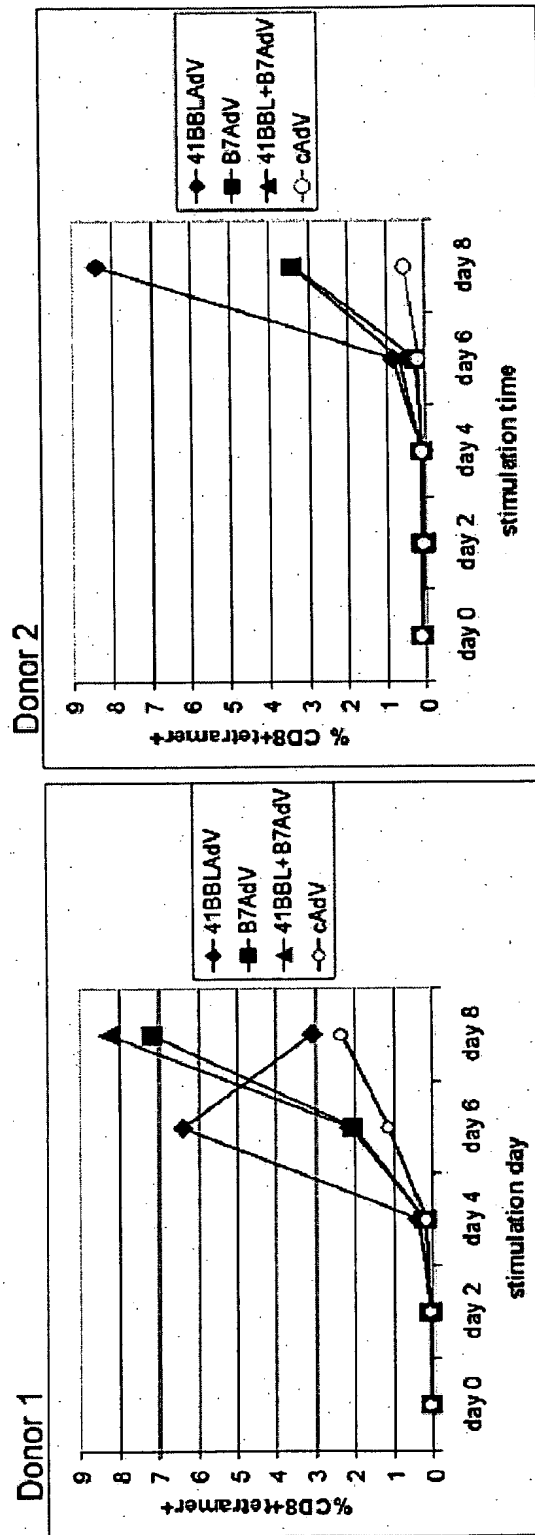


FIG. 35



FIG. 36

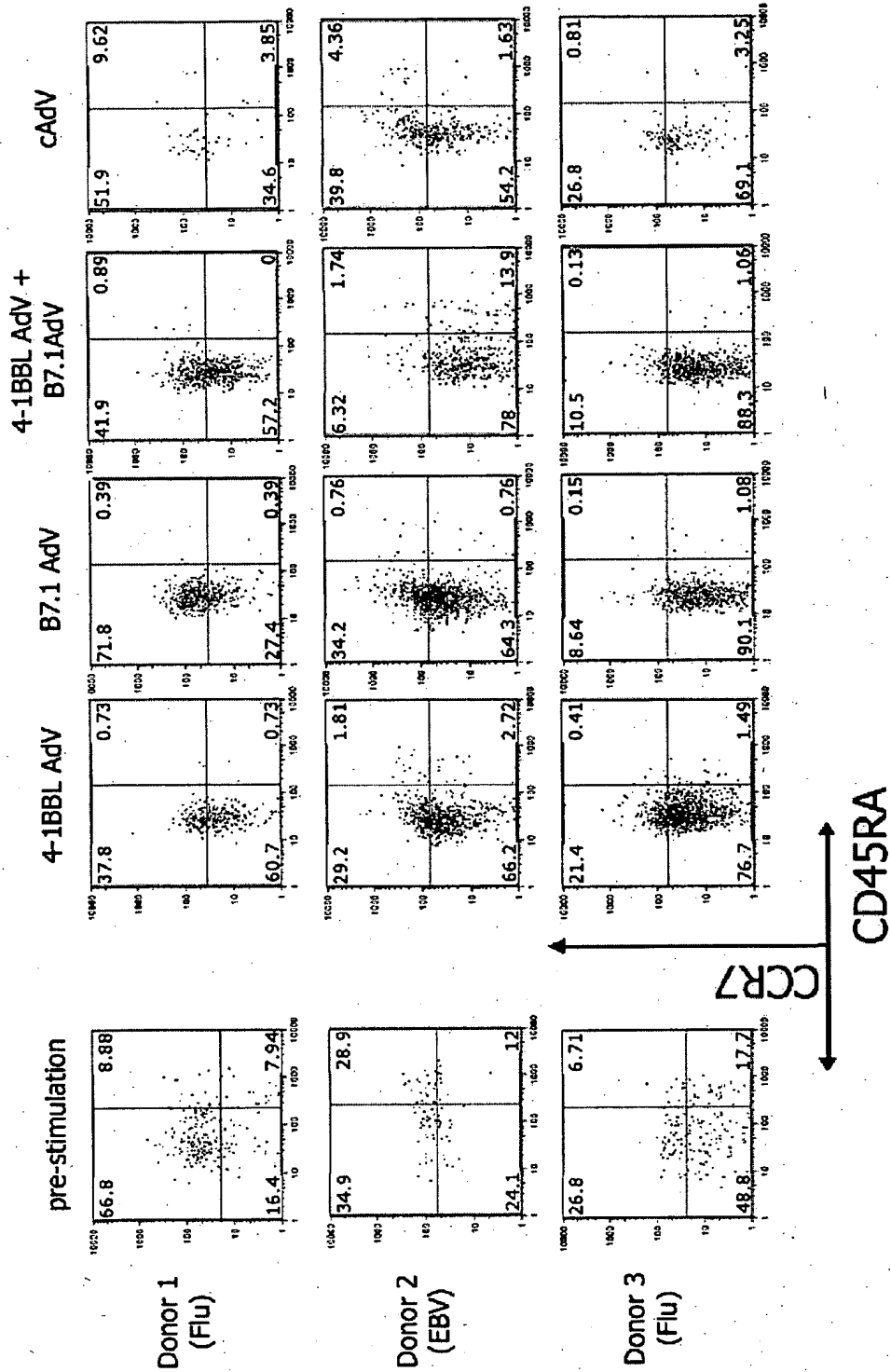


FIG. 37